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THE

# HISTORY OF SUMATRA,

BOARD

Containing

An Account of the GOVERNMENT, LAWS,  
CUSTOMS, and MANNERS

Of the

70 F 6.

NATIVE INHABITANTS,

With

A DESCRIPTION of the NATURAL PRODUCTIONS,

And

A RELATION of the ANCIENT POLITICAL STATE

Of that

I S L A N D.

By

WILLIAM MARSDEN, F.R.S.

Late SECRETARY to the PRESIDENT and COUNCIL  
OF FORT MARLBOROUGH.

THE SECOND EDITION.

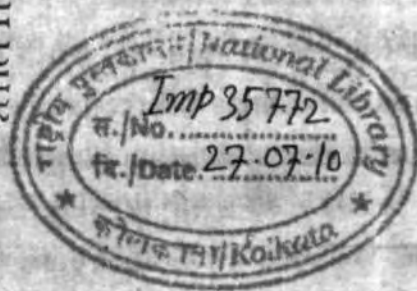
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## P. R E F A C E.

**T**HE island of Sumatra, which, in point of situation and extent, holds a conspicuous rank on the terraqueous globe, and is surpassed by few in the bountiful indulgences of nature, has in all ages been unaccountably neglected by writers; insomuch, that it is at this day less known, as to the interior parts more especially, than the remotest island of modern discovery; although it has been constantly resorted to by Europeans, for some centuries, and the English have had a regular establishment there, for the last hundred years. It is true that the commercial importance of Sumatra has much declined. It is no longer the Emporium of Eastern riches, whither the traders of the West resorted with their cargoes, to exchange them for the precious merchandize of the Indian Archipelago: nor does it boast now the political consequence it acquired, when the rapid progress of the Portuguese successes there first received a check. That enterprising people, who caused so many kingdoms to shrink from the terror of their arms, met with nothing but disgrace in their attempts against Acheen, whose monarchs made them tremble in their turns. Yet still the importance of this island, in the eye of the natural historian, has continued undiminished, and has equally at all periods, laid claim to an attention, that does not appear, at any, to have been paid to it.

The Portuguese being better warriors than philosophers, and more eager to conquer nations, than to explore their manners or antiquities, it is not surprizing that they should have been unable to furnish the world with any particular and just description of a country, which they must have regarded with an evil eye. The Dutch were the next people from whom we had a right to expect information. They had an early intercourse with the island, and have at different times formed settlements in almost every part of it; but they are almost silent with respect to its history. This might perhaps be popularly accounted for, from the supposed hebetude of their national character, or their attachment to gain, which is apt to divert the mind from all liberal pursuits. But I believe the true reason is to be found, in the jealous policy of their commercial system, which deems it matter of expediency to prohibit the publication of any researches, that might tend to throw a light on the sources of their profit, and draw the attention of the rest of the world. But to what cause are we to ascribe the remissness of our own countrymen, whose opportunities have been equal to those of their predecessors or cotemporaries? It seems difficult to account for it, but the fact is, that, except a short sketch of the manners prevailing in a particular district of the island, published in the Philosophical Transactions of the year 1778, not one page of information respecting the inhabitants of Sumatra, has been communicated to the public, by any Englishman who has resided there.



## P R E F A C E.

To form a general and tolerably accurate account of this country and its inhabitants, is a work attended with great and peculiar difficulties. The necessary information is not to be procured from the people themselves, whose knowledge and inquiries are to the last degree confined; scarcely extending beyond the bounds of the district where they first drew breath; and but very rarely have the almost impervious woods of Sumatra been penetrated, to any considerable distance from the sea coast, by Europeans; whose observations have been then imperfect; trusted perhaps to memory only; or if committed to paper, lost to the world by their deaths. Other difficulties arise from the extraordinary diversity of national distinctions, which, under a great variety of independent governments, divide this island in many directions; and yet not from their number merely, nor from the dissimilarity in their languages or manners does the embarrassment entirely proceed: the local divisions are perplexed and uncertain; the extent of jurisdiction of the various potentates is inaccurately defined; settlers from different countries, and at different periods, have introduced an irregular, though powerful influence, that supersedes in some places the authority of the established governments, and imposes a real dominion on the natives, where a nominal one is not assumed. This, in a course of years, is productive of innovations that destroy the originality and genuineness of their customs and manners, obliterate ancient distinctions, and render confused the path of an investigator.

These

These objections, which seem to have hitherto proved unsurmountable with such as might have been inclined to attempt an history of Sumatra, would also have deterred me from an undertaking apparently so arduous ; had I not reflected, that those circumstances in which consisted the principal difficulty, were in fact the least interesting to the public, and of the least utility in themselves. It is of but small importance to determine with precision, whether a few villages on this or that particular river, belong to one petty chief or to another ; whether such a nation is divided into a greater or lesser number of tribes ; or which of two neighbouring powers originally did homage to the other for its title. History is only to be prized, as it tends to improve our knowledge of mankind, to which such investigations contribute in a very small degree. I have therefore attempted rather to give a comprehensive, than a circumstantial description of the divisions of the country into its various governments ; aiming at a more particular detail, in what respects the customs, opinions, arts, and industry of the original inhabitants, in their most genuine state. The interests of the European powers who have established themselves on the island ; the history of their settlements, and of the revolutions of their commerce, I have not considered as forming a part of my plan ; but these subjects, as connected with the accounts of the native inhabitants, and the history of their governments, are occasionally introduced.

I was

I was principally encouraged to this undertaking by the promises of assistance I received from some ingenious, and very highly esteemed friends, who resided with me on Sumatra. It has also been urged to me here in England, that as the subject is altogether new, it is a duty incumbent on me, to lay the information I am in possession of, however defective, before the public, who will not object to its being circumscribed, whilst its authenticity remains unimpeachable. This last quality is that which I can with the most confidence take upon me to vouch for. The greatest portion of what I have described, has fallen within the scope of my own immediate observation; the remainder is either matter of common notoriety to every person residing on the island, or received upon the concurring authority of gentlemen, whose situation in the East India Company's service; long acquaintance with the natives; extensive knowledge of their language, ideas, and manners; and respectability of character, render them worthy of the most implicit faith that can be given to human testimony.

I have been the more scrupulously exact in this particular, because my view was not, ultimately, to write an entertaining book, to which the marvellous might be thought not a little to contribute; but sincerely and conscientiously to add the final portion in my power, to the general knowledge of the age; to throw some glimmering light on the path of the naturalist; and more especially to furnish those philosophers, whose labors have been directed to the investigation of the history of Man, with facts to

serve

serve as *data* in their reasonings, which are too often rendered nugatory, and not seldom ridiculous, by assuming as truths, the misconceptions, or wilful impositions of travellers. The study of their own species is doubtless the most interesting and important that can claim the attention of mankind; and this science, like all others, it is impossible to improve by abstract speculation, merely. A regular series of authenticated facts, is what alone can enable us to rise towards a perfect knowledge in it. To have added one new and firm step in this arduous ascent, is a merit I should be proud to boast of.



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# THE HISTORY OF SUMATRA.

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*Unknown to the Ancients—Situation—Name—General Description of the Country, its Mountains, Lakes, and Rivers—Air and Meteors—Monsoons, and Land and Sea-Breezes—Minerals and Fossils—Volcanos—Earthquakes—Surfs and Tides.*

IF antiquity holds up to us some models, in different arts and sciences, which have been found inimitable; the moderns, on the other hand, have carried their inventions and improvements, in a variety of instances, to an extent and a degree of perfection, of which the former could entertain no ideas. Among those discoveries in which we have slept so far beyond our masters, there is none more striking, or more eminently useful, than the means which the ingenuity of some, and the experience of others, have taught mankind, of determining with certainty and precision the relative situation of the various countries of the earth. What was formerly the subject of mere conjecture, or at best of vague and arbitrary computation, is now the clear result of settled rule, founded upon principles demonstratively just. It only remains for the liberality of princes and states, and the persevering industry of navigators and travellers, to effect the application of these means to their proper end; by continuing to ascertain the unknown and uncertain positions of all the parts of the world, which the barriers of nature will allow the skill and industry of man to approach.

Sumatra unknown to the ancients.

Ceylon probably their Taprobane.

Called Ramni by Arab travellers.

Java Minor by Marco Paulo.

The extensive and obviously situated island, which is the subject of the present work, seems, notwithstanding some obscure and self-contradictory passages of Ptolemy and Pliny, to have been utterly unknown to the Greek or Roman geographers, whose discoveries or conjectures rather, carried them no farther than *Ceylon*; which with more shadow of probability was their *Taprobane*, than *Sumatra*, although that name, during the middle ages, was uniformly applied to the latter island. Whether, in fact, the appellation of *Taprobane*, as introduced by the ancients, belonged to any place really existing, is a question which affords some room to be sceptical. Observing that a number of commodities, not produced in Europe, came from an island or islands in the supposed extremity of the east, whose situation they were ignorant of, they possibly might thence have been led to place in their charts one of ample extent, which should stand as the arbitrary representative of the whole. This supposition cuts short the various arguments that have been adduced by different writers, in support of the pretensions of any particular island to that celebrated name. The idea of Sumatra being the country of *Ophir*, whither Solomon sent his fleets, is too vague, and the subject wrapt in a veil of too remote antiquity, to admit discussion.\* In times much later, the identity of Sumatra, as described or alluded to by travellers, appears not a little equivocal. The Arab travellers who, about the year 1173, penetrated into India and China, speak of an island which they call *Ramni*, whose description coinciding tolerably with the real situation and productions of Sumatra, allows us to conclude, that it was it they designed. Marco Paulo, the famous Venetian traveller, whose writings published in 1269, though long condemned as idle tales, have many internal marks of authenticity, describes an island which he calls *Java Minor*, that appears, on attentive perusal of ill spelt names, and more especially of some striking particulars in the manners of the people, to be no other than Sumatra, as I think will be evident to any investigator who is acquainted with the country.†

\* A mountain in Sumatra is called by the name of *Ophir*; but this has been given to it by Europeans in modern days. Another near Malacca is likewise so named.

† Occasion will be taken in the sequel to examine into the authenticity of this curious, but obscure author's relation.

At length the expeditions of the Portuguese in the eastern seas made this island known to the rest of the world. They pointed out its situation and character, with as much accuracy as attended their other discoveries,\* and which the experience of later ages has determined with more precision as follows.

Identity determined by the Portuguese.

Sumatra is an island in the East Indies; the most western of those classed by geographers under the distinction of *Sunda* islands; and constitutes, on that side, the boundary of the eastern Archipelago. Its general direction is nearly north west and south east. The equator divides it in almost equal parts, the one extremity being in five degrees thirty-three minutes, north, and the other, in five degrees fifty-six minutes south latitude. Fort Marlborough, on the point of land called *Ojong Carrang*, in latitude three degrees forty-six minutes, south, the only place whose longitude has been determined by actual observation, is found to lie one hundred and two degrees east of Greenwich;† but the situation of Acheen Head also is pretty accurately fixed by computation at ninety-five degrees, thirty-four minutes; and the longitudes in the Straits of Sunda are well ascertained by the short runs from Batavia, which city has the advantage of an observatory. Sumatra lies exposed on the south west side to the great Indian Ocean; the north point stretches into the bay of Bengal; to the north east it is divided from the peninsula of *Malaya* by the Straits of *Malacca*; to the east by the Straits of *Banca*, from the island of that name; to the south east by the commencement of what are called the China Seas; and on the south it is bounded by the Straits of *Sunda*, which separate it from the island of *Java*.‡

Situation.

\* See Oforius: De Barros: Do Couto.

† Preparatory to an observation of the transit of the planet Venus over the sun's disc, in Jun 1769, Mr. Robert Nairne determined the longitude of Fort Marlborough, by eclipses of Jupiter's satellites, to be  $101^{\circ} 41' 45''$  east from London; which was afterwards corrected by the Astronomer Royal to  $102^{\circ}$ .

‡ A tradition, taken notice of by several writers, prevailed, that Sumatra was anciently a part of the continent of Asia. Maffius says, "En insula, a septentrione in austrum oblique porrecta, ab continente, in qua Malacca urbs est, angusto et periculoso dividitur mari; atque ob id ipsum, peninsula quondam credita est." John de Barros likewise speaks of Sumatra, as what the ancient geographers called the *Aurea Chersonesus*; thinking it to be a continuation of the continent. Vartomanus describes the straits of Malacca as a great river.

Name.

The name of "*Sumatra*," by which this island has been called in latter times, being unknown to the natives, who indeed are ignorant that it is an island, and have no general name whatever for it, I have been led to take much trouble, and to pursue a more laborious investigation than the importance of the object demanded, in order to deduce the origin of the appellation, or to learn, from whom the Portuguese, who in their earliest writings call it nearly by that name, adopted it, in place of the more ancient one of *Taprobane*. It has by them, and the voyagers of other nations, been successively spelt, *Samoterra*, *Samotra*, *C,amatra*, *Zamatra*, *Zamara*, *Sumotra*, *Samotra*, *Somatra*, *Samatra*, and lastly *Sumatra*. I must acknowledge that in the event of my research, I obtained but little satisfaction, unless it may be esteemed such, to have perceived that several others had attempted it with the same success. The Arabians, who before the Portuguese, were the greatest navigators of the Indian seas, appear to have distinguished it by the various names of *Alrami*, *Rami*, or *Ramni*, *Lameri*, *Sobarmab*, or *Sobormab*, *Samandar*, and *Azebain*, or *Azebani*; or else these names belong to different islands in that part of the world, which from their similarity of productions, and vicinity of situation, have been mistaken for each other. *Samander* bears some resemblance to the modern name, but it is described by the Nubian geographer, *Edressi*, as lying near to the river *Ganges*. The Africans are said to call it *Achamba*. Monsieur D'Anville, whose authority should be of considerable weight, if the subject was not so very obscure, is confident that the *Jabadii insula* of Ptolemy, is Sumatra, though usually supposed to represent Java. The commentators of Arrian assert that this island is designed by the *insula Simundi*, vel *Palasimundi* of that writer, in his *periplus maris Erythraei*. *Odericus*, a friar, who in the year 1331 visited some of the Indian islands, speaks of Java and *Symolta*, which name seems a kind of middle term between that given it by Arrian and the modern one of *Sumatra*, and may possibly be the true etymology. *Relandus*, an able investigator of eastern antiquities, says that it is called Sumatra, from a certain high land named "*Samadra*," which he supposes to signify, in the language of the country, "*magna formica*"; but though there is no scarcity of large ants in the island, it is certain that they are never called by that name; it is nearly as certain that



that there is no remarkable hill there bearing the appellation he mentions; nor does the derivation either carry the appearance of probability, or any corroborating testimony in its favor. He mentions likewise, and in this he is supported by the Dutch writers, that the people of the neighbouring islands, call it *Indalas* (*Andeelees*), which holds good of the Javans, but it has no extensive acceptance, and the natives themselves, as before remarked, are ignorant of such a name, as well as of every other. This is a point which I took pains to investigate, and which I can pronounce upon with certainty; and to this circumstance principally the ambiguity respecting its ancient title is owing: as navigators of different nations had no common and permanent standard to refer to, each who visited it bestowed an arbitrary appellation, which subsequent travellers confounded and misapplied.\* What seems pretty evident is, that the name, however derived, was learned by the Portuguese on the coast of Malabar, where they made their first establishments, and acquired a knowledge of the more eastern countries; very rude indeed at the earlier period, as appears by the *Itinerarium Portugalsium*, published in the year that their first expedition to Sumatra was fitted out; in which Cataia, or China, is described as an island.†

## Sumatra

\* Much inconvenience is experienced by navigators in modern times, from the arbitrary mode of bestowing names on lands newly discovered or explored. That name which the inhabitants, or those of the neighbouring countries, distinguish a place by, should ever be scrupulously preserved; if such can be ascertained. This seems to have been first attended to by Mr. Dalrymple, and since by Captain Cook.

† For the gratification of the curious reader, I shall subjoin the following extracts, relative to the ancient name of Sumatra, from those authorities which I had occasion to consult in the course of my investigation of that subject.

Voyage of Arabs to India and China, 1173. "An eastern island called *Ramni*: governed by many kings: eight or nine hundred leagues in length: gold mines: camphire: many islands near it: one of the largest called *El nian* (qu: *Neas*): use coconut oil: have many elephants: Japan wood: eat human flesh."—Herbelot. *Bibliothèque orientale*, 1697. "*Sobarmah* or *Sobarmah*, an island in the Chinese Sea, about which are many small ones uninhabited. Sea very tempestuous. Soundings generally forty fathoms. Scheriff Al Edressi writes, in the tenth part of his first climate, that the best camphire of the east is collected here. This isle is most probably Sumatra; the Arabians calling all that sea and land which is to the eastward of Cape Comorin, the sea and land of China. Some geographers remark that the greatest quantity of wood aloes comes from the isle of *Semender*, which may be what we call Sumatra. *Rami*, a rich country, bearing the tree called *Bacum* by the Arabs, and by us *Safl wood* (*sappan*), and where you find the

Sumatra is one of the largest islands in the world, but its breadth is determined with so little accuracy, that any attempt to calculate its superficies,

the animal which the Arabs and Persians name *Kerkedan*. (rhinoceros) is an island seven hundred leagues in length, and distant about three days sail from Serendib, which we believe to be Zeilan. *Dib* or *diu*, in the Indian language, signifies an island. Edressi says that the Chinese used to carry on a great traffic to Serindib—"There is reason to doubt their having ever passed Acheen—In the *geographia Nubiensis* of that writer (as quoted by Herbelot), the island called *Alrami* seems to answer best to Sumatra, except in its proximity to Serendib, being ten days sail instead of three. *Sabormab* has the next claim; and lastly *Samandar*, which though the nearest in name, scarcely agrees at all in situation, being said to lie near the *Ganges*—Jones, *Description of Asia*, 1773. "Farther eastward are the islands of *Samander*; *Ram* or *Lameri*, which may, perhaps, be Java, though, by the accounts of it, one would take it for the same with *Samander*, and then *Abixoman* will be Java, and *Mebrage* or *Sobormab*, Borneo"—Marco Paulo, 1269. "Beyond Petan, steering towards the south, at the distance of thirty three leagues, is *Java Minor*"—the description of which answers to Sumatra.—*Odoricus*, as mentioned in Hacklitt t. 2. p. 45. "In the year 1331, *Odoricus*, a friar, was in Java: the first European that pierced into India and returned". (Marco Paulo an exception)—*Mandeville*, 1400. "Beside the ylle of *Lemery* is another that is clept *Sumobor*; and fast beside, a great ylle clept Java"—*Nicoli de Conti*, 1449. (*Ramusio*) gives a good account of Sumatra under the name of *Taprobane*, and particularly mentions some extraordinary customs, now well ascertained, of the *Batta* people.—*Itinerarium Portugalsium* in Indiam, printed 1508, but written, apparently, some years sooner. "Lacham mittit oppidum dictum *Samoterra*, ultra *Calechut* leucis cecce". "Præterea in hoc mari Indico complures insulæ videntur, et inter alias duæ sunt quæ ceteras omni rerum celebritate præstant.—*Altera* *Sayla* dicitur, quæ abest ab dicto capite *Comar M* prope cc.—Post hanc, ad orientem, altera videtur quæ dicitur *Samotra*, nos *Taprobanum* appellamus, quæ abest ab urbe *Calechut* itinere trium mensium. Ultra eam est *Catalum* feracissima, ut dictum est insula"—*Ludovico Barthema*, or *Vartomanus*. He travelled in 1503 and 4, and an edition of his work was published at Venice in 1517. "He passed over from *Melacha* to *Sumatra*, which appears to be *Taprobana*, and arrived at *Fider*, reckoned the best port in the island."—Here the name is spelt in the modern manner, contrary to the mode adopted by the Portuguese—Old map and description of Sumatra or *Taprobana*, by a French Captain; without date; but appears to have been written not many years after the first Portuguese voyages. Preserved in *Ramusio*, vol. 3.—In a letter from Emanuel king of Portugal to Pope Leo the tenth, dated 1513 (preserved in the *Novus Orbis Historicus*) he mentions the discovery of *Zamatra* by his subjects—*Epistola di Massimiliano Transylvano*, 1519. "l'anno navigato all'isola detta di gli antichi *Taprobana*, la qual adesso si chiama (*Zamara*) *Sumatra*, perche dove *Tolomeo* et *Plinio* et altri cosmographi han misso la *Taprobana*, non è isola alcuna, chi l'avea credere esser quello"—*Sebastianus Munsterus*. Printed 1537. "Circa littora *Taphrophanzæ*, quæ hodie *Sumatram* vocant."—*Cosmographie Univ. de A Thevet*, 1541. "Near the point of *Malacca* is *Taprobane* or *Sumathre*, which the barbarians formerly called *Salique*: (mistake for Ceylon): the Arabs named it *Azebain*, and the Africans, *Achamba*. Famous for cinnamon. King of *Pazar* (*Pafay*), *Dargui* (perhaps *Andergery*), *Pedir*, *Ham* and *Biranc*, tributary to the grand Cam. Many spices here, but the pepper comes from *Calecut* and *Zeilan*. Governed by many petty kings. In 1543 it was plundered and ravaged by some adventurers from *Cephala*. Dress of the people

superficies, must be liable to very considerable error. Like Great Britain, it is broadest at the southern extremity, narrowing gradually to the north ;

people well described. The equinoctial passes through the middle of the island"—Mendez de Pinto, 1558. "In 1539 the Portuguese governor of Malacca received an embassy from the king of the Bajas, in the island of *Samatra*—Geography of Ptolemy translated into Italian by Geralino Ruscelli. Printed 1561. "Taprobana, where the people, according to Ptolemy, have the sun exactly over their heads, and sometimes north, sometimes south of them, we call *Samatra* or *Sumatra*. Its four kings pay tribute to the Cham of Tartary"—Scolia J. G. Stukii, in periplum Arriani, 1577. "Taprobane olim, teste Arriano nostro, necnon Ptolomeo, *Simundi* insula fuit appellata. Hanc plerique doctorum volunt esse insulam hodie *Samatram*, five *Samatran*, five *Zamatran* dictam."—Cosmographie de P. Appian par Gemma Frison, 1581. "Taprobana, isle autrefois nommée *Simundi*, et maintenant, selon aucuns, *Sumatra*. Ptolomée recite que'elle estoit paravant dicté *Simonide*, & que les peuples d'icelle s'appelloient d'un commun nom, *Salas*, & qu'ils portoyent tous habits de femmes."—Orosius. Translation, 1581. "With these five ships he (Sequeira) sailed to the island formerly named Taprobane, and now *Zamatra*"—Masseus, Hist. Ind. Printed, 1590. *Sequeria ad Somatrum primus omnium Lusitanorum accessit*"—John de Barros, published about 1558. "Malacca had the epithet of *aurea* given to it, on account of the abundance of gold carried thither from *Monacabo* and *Barros*, countries in the island *Camatra*. At the time of our coming into India, the sea coast was divided into twenty kingdoms. Beginning at the most western point, and thence going round by the north, the first is called *Qaya*; and those which follow in order, are, *Lambrij*, *Achem*, *Biar*, *Pedir*, *Lide*, *Pirada*, *Pacem*, *Bara*, *Daru*, *Arcat*, *Ircan*, *Rupal*, *Purij*, *Ciaco*, *Campar*, *Capocam*, *Andraguerij*, *Jambij*, *Palimbam*, *Tanna Malayo*, *Sacampam*, *Tuhumbaum*, *Andolix*, *Piriaman*, *Tico*, *Barros*, *Quincel* and *Mancopa*, which is in the neighbourhood of *Qaya* and *Lambrij* beforementioned"—Vincent le Blanc. Printed 1660. "Sumatra, called by some *Tasau*, which signifies a great Island. Inhabitants of Malacca say it was formerly joined to the continent; but separated by an earthquake."—Herbert's Travels. Printed 1677. *Odoric* call Sumatra, *Symolta*; *Josephus*, *Samotra*; others, *Alramis* and *Zamara*; *Symunda* in Ptolemy; by the inhabitants *Salyca* and *Salutra*. Mediterranean Town *Menacabo*, formerly called *Syudoconda*—Richthoffer, Voyages in German, 1667. Sumatra is spelt *Sammater*.—Dampier, 1688. This circumnavigator mentions having seen an old map, in which there was no other name to Sumatra, but that of *Sheba*.—Relandus. "Indalas. Its appellatur incolis & vicinis, insula illa quæ nunc volgo Sumatra, a loco quodam excelso in eâ insula dicto *Samadra*, i. e. *magna formica*."—I have been chiefly enabled to obtain the foregoing extracts, many of them from very scarce authors, and others that will occur in the subsequent part of the work, by recourse to the valuable collection of voyages and travels (perhaps unequalled in any library in Europe) formed by, and in the possession of Alexander Dalrymple, Esq.

Some persons have imagined that they find an easy derivation of the name of Sumatra, or Amatra, from a word so spelt, signifying a "squal" in the Portuguese and Spanish languages: but the fact is just the reverse. Sailors finding such squalls to prevail in the neighbourhood of that island, naturally called them after its name; and even the English call them *Sumatras*: as they say a *Scotch Mist*.

north; and to this island it is perhaps in size, more nearly allied than in shape.

#### Mountains.

A chain of mountains runs through its whole extent, the ranges being in many parts double and treble, but situated, in general, nearer to the western than the opposite coast; being, on the former, seldom so much as twenty miles from the sea. The height of these mountains, though very great, is not sufficient to occasion their being covered with snow, during any part of the year, as those in South America, between the tropics, are found to be. Mount *Ophir*, situated immediately under the equinoctial line, is supposed to be the highest visible from the sea; its summit being elevated thirteen thousand eight hundred and forty two feet above that level; which is no more than two thirds of the altitude the French astronomers have ascribed to the loftiest of the Andes, but somewhat exceeds that of the Peak of Teneriffe.\* Between these ridges of mountains, are extensive plains, considerably elevated above the surface of the maritime lands, where the air is cool; and from this advantage they are esteemed the most eligible portion of the country, are consequently the best inhabited, and the most cleared from

\* The following is the result of observations made by Mr. Robert Nairne, of the height of Mount *Ophir*.

Height of the peak above the level of the sea, in feet	13,842
English miles	2,6216
Nautical miles	2,26325
Inland, nearly	26 Naut. miles.
Distance from Maffang Point	32 ditto.
Distance at sea before the peak is sunk under the horizon	125 ditto.
Latitude of the peak	0°. 6'. minutes, north.
A volcano mountain, south of <i>Ophir</i> , is short of that in height by	1377 feet.
Inland, nearly	29 Naut. miles.

In order to form a comparison I subjoin the height, as computed by mathematicians, of other mountains in different parts of the world.

Chimborazo, the highest of the Andes, 3220 toises, or 20,633 English feet. Of this about 450 feet from the summit are covered with eternal snow.

Carazon ascended by the French astronomers	15,800 Eng. feet.
Peak of Teneriffe. Feuillé - 2070 toises, or	13,265 feet.
Mount Blanc, Savoy. Sr. G. Shuckburgh	15,662
Mount <i>Ætna</i> . Ditto	10,954

woods,



# S U M A T R A.

woods, which elsewhere in general throughout Sumatra, cover both hills and vallies with an eternal shade. Here too are found many large and beautiful lakes that extend, at intervals, through the heart of the country, and facilitate much the communication between the different parts; but their dimensions, situation, or direction are very little known, though the natives make frequent mention of them in the accounts of their journeys.\* These give birth to most of the larger rivers, and particularly to those which empty themselves to the eastward. Waterfalls and cascades are not uncommon, as may be supposed, in a country of so uneven a surface. A remarkable one descends from the north side of *Mount Poogong*, near *Poolo Pesang*. *Mausclar*, which forms the mouth of Tappanooly Bay, presents to the view a fall, of very singular appearance, from the summit of a sugar loaf mountain; the reservoir of which the natives plausibly assert to be a huge shell of the species called *Keemo*.† A small but beautiful cascade descends perpendicularly from the steep cliff, which, like an immense rampart, lines the sea shore near *Manna*.‡ No country in the world perhaps is better watered than this. Springs are found wherever they are sought for. The rivers on the western coast are innumerable, but they are in general too small and rapid for the purpose of navigation. The vicinity of the mountains to that side of the island occasions this profusion of rivulets, and at the same time the imperfections that attend them, by not

Woods.

Lakes.

Waterfalls.

Rivers.

\* The lakes principally spoken of are, one of great extent in the Batta country; a second in the country of Menangcabow, which the inhabitants avail themselves of, in transporting goods to and from Palembang; a third in the Corinchia country, visited by Mr. Rogers, a servant of the Company, from Moco Moco; and a fourth in the Lampoon country, extending to Passummah. The boats employed on this last carry sails, and are of a larger sort, called *panchallang*: a day and a night are required to cross it. The sultan of Palembang's son came by that way to Croce, when Mr. Stevenson had charge of the settlement.

† The *keemo* shell, probably the largest in the world, is of the cockle kind: it is found in the Bay of Tappanooly chiefly, but likewise in other parts of the east: they are taken in deep water, by thrusting a long bamboo between the valves as they lie open, and by the immediate closure which follows, they are made fast. The largest I have seen was about three to four feet over. The shell is perfectly white, and is worked up like ivory by the natives.

‡ A ship from Europe (the *Elgin*) sent a boat, in order to procure fresh water there, attracted by its appearance from the sea; but the boat was lost in the surf, and the crew drowned.

allowing them space to accumulate to any considerable size. On the eastern coast, the distance of the range of hills not only affords a larger scope for the course of the rivers before they disembogue; presents a greater surface for the receptacle of rain and vapors; and enables them to unite a greater number of subsidiary streams; but also renders the flux more steady and uniform by the extent of level space, than where the torrent rolls more immediately from the mountains. But it is not to be understood that on the western side there are no large rivers. *Cattown*, *Indrapour*, *Tabooyong*, and *Sinkell* have a claim to that title, although inferior in size to *Palembang*, *Jambee*, *Indergerree*, *Racan*, and *Battoo Bara*. The latter derive also a material advantage from the shelter given them by the peninsula of *Malacca*, and *Borneo*, *Banca* and the other islands of the Archipelago, which breaking the force of the sea, prevent the surf from throwing up those banks of sand that choke the entrance of the south western rivers, and render them impracticable to boats of any draught of water. These labor too under this additional inconvenience, that scarce any, except the largest, run out to sea in a direct course. The continual action of the surf, more powerful than the ordinary force of the stream, throws up at their mouths a bank of sand, which diverts their course to a direction parallel with the shore, between the cliffs and the beach, till the accumulated waters at length force their way wherever there is found the weakest resistance.\* In the southerly Monsoon, when the surfs are usually highest, and the rivers, from the dryness of the weather, least rapid, this parallel course is at the greatest extent; but as the rivers swell with the rain, they gradually remove obstructions and recover their natural channel.

Air.

The heat of the air is by no means so intense as might be expected, in a country occupying the middle of the torrid zone. It is more temperate than in many regions without the tropics, the thermometer, at the most sultry hour, which is about two in the afternoon, generally fluctuating

\* Moco-Moco river takes a course, at times, of three miles, in this manner, before it mixes with the sea.

between

between 82 and 85 degrees.\* I do not recollect to have ever seen it higher than 86 in the shade. At sun rise it is usually as low as 70; the sensation of cold, however, is much greater than this would seem to indicate, as it occasions shivering and a chattering of the teeth; doubtless from the greater relaxation of the body, and openness of the pores in that climate; for the same temperature in England would be esteemed a considerable degree of warmth. These observations on the state of the air apply only to the districts near the sea coast, where, from their comparatively low situation, and the greater compression of the atmosphere, the sun's rays operate more powerfully. Inland, as the country ascends, the degree of heat decreases rapidly, inasmuch, that beyond the first range of hills, the inhabitants find it expedient to light fires in the morning, and continue them till the day is advanced, for the purpose of warming themselves; a practice unknown in the other parts of the island. To the cold also they attribute the backwardness in growth of the coco-nut tree, which is sometimes twenty or thirty years in coming to perfection, and often fails to produce fruit. Situations are uniformly colder in proportion to their height above the level of the sea, unless where local circumstances, such as the neighbourhood of sandy plains, contribute to produce a contrary effect; but on Sumatra the coolness of the air is promoted by the quality of the soil, which is clayey, and the constant and strong verdure that prevails, which, by absorbing the sun's rays, prevents the effect of their reflection and refraction. The circumstance of the island being so narrow contributes also to its general temperateness, as wind directly, or recently from the sea is seldom possessed of any violent degree of heat; which it usually acquires in passing over large tracts of land in the tropical climates. Frost, snow, and hail are totally unknown to the inhabitants.† The atmosphere is in common

\* At Calcutta in Bengal, the thermometer, in the hot season, rises to 93°: up the country sometimes to 101° in the shade; and even after sun set it has been observed at 96°.

† The hill people in the country of Lampoon speak of a peculiar kind of rain that falls there, which some have supposed to be what we call sleet; but the fact is not sufficiently established; and perhaps what the countrymen mean, is nothing more than the thick mists or clouds that usually encompass the tops of high hills, precipitating in rain.

more cloudy than in Europe, which is sensibly perceived, from the infrequency of clear star-light nights. It may proceed from the greater rarefaction of the air occasioning the clouds to descend lower and become more opaque, or merely from the stronger heat exhaling from the land and sea, a thicker and more plentiful vapor. The fog, called *caboot* by the natives, which rises every morning between the hills, is dense to a surprizing degree; the extremities of it, ~~even~~ when near at hand, being perfectly defined; and it seldom is observed to disperse till about three hours after sun rise.

Water-spout.

That extraordinary phænomenon, so well known and accurately described, the water-spout, frequently makes its appearance in these parts, and not seldom on shore. The largest and most distinct I had ever an opportunity of seeing, I met whilst on horseback. I was so near it, that the inward gyration, as distinct from the volume which surrounded it, was perfectly visible to me. It seemed to have taken its rise in Bencoolen Bay, its course tending in a direction from thence across the peninsula on which the settlement of Fort Marlborough stands; but before it reached the sea on the other side, it vanished by degrees, without any consequent fall of water, or other destructive effect; collecting itself into the body of the cloud from which it depended.

Thunder and Lightning.

Thunder and lightning are there so very frequent, as scarcely to attract the attention of persons long resident in the country. During the north west monsoon, the explosions are extremely violent; the forked lightning shoots in all directions, and the whole sky seems on fire; whilst the ground is agitated in a degree, little inferior to the motion of an earthquake. In the south east monsoon, the lightning is more constant, but the coruscations are less fierce or bright, and the thunder is scarcely audible. It should seem that the consequences of these awful meteors are not so fatal there as in Europe; few instances occurring of lives being lost, or buildings destroyed by the explosions, although electrical conductors have never been employed. Perhaps the paucity of inhabitants, in proportion to the extent of country, and the unsubstantial materials of the  
houses,



houses, may contribute to this observation. I have seen some trees, however, that have been shattered on Sumatra by the action of lightning.\*

The causes which produce a successive variety of seasons in the parts of the earth without the tropics, having no relation or respect to the region of the torrid zone, a different order takes place there, and the year is distinguished into two divisions, usually called the rainy and dry monsoons,† from the weather peculiar to each. In the several parts of India these monsoons are governed by various particular laws, in regard to the time of their commencement, period of duration, circumstances attending their change, and direction of the prevailing wind, according to the nature and situation of the lands and coasts where their influence is felt. The farther peninsula of India, where the kingdom of Siam lies, experiences at the same time the effects of opposite seasons; the western side, in the Bay of Bengal, being exposed for half the year to continual rains, whilst on the eastern side the finest weather is enjoyed; and so on the different coasts of Indostan, the monsoons exert their influence alternately; the one remaining serene and undisturbed, whilst the other is agitated by storms. Along the coast of Coromandel, the change, or breaking up of the monsoon, as it is called, is frequently attended with the most violent gales of wind. Monsoons.

On the west coast of Sumatra, the S. E. monsoon, or dry season, begins about May, and slackens in September: the N. W. monsoon begins about November, and the hard rains cease about March. The monsoons for the most part commence and leave off gradually there; the months of April and May, October and November, generally affording weather and winds variable and uncertain.

The causes of these periodical winds have been investigated by several able naturalists, whose systems, however, do not entirely correspond Cause of the Monsoons.

\* Since the above was written, accounts have been received that a Magazine at Fort Marlborough, containing four hundred barrels of powder, was fired by lightning, and blown up, on the 18th of March 1782.

† The term "Monsoon," appears to be a corruption of the word "*Moossem*," which, both in Arabic and Malay, signifies a year. *Taanu*, another Malay word for season or year, respects their harvests.



either in the principles laid down, or in their application to the effects known to be produced in different parts of the globe. I shall summarily mention what appear to me the most evident, or probable at least, among the general laws, or inferences, which have been deduced from the examination of this subject. If the sea were perfectly uninterrupted, and free from the irregular influence of lands, a perpetual easterly wind would prevail in all that space comprehended between the twenty eighth or thirtieth degrees of north and south latitude. This is primarily occasioned by the diurnal revolution of the earth upon its axis from West to East; but whether through the operation of the sun, proceeding westward, upon the atmospheric fluid; or the rapidity of revolution of the solid body, which leaves behind it that fluid with which it is surrounded, and thereby causes it virtually to recede in a contrary direction; or whether these principles co-operate, or oppose each other, as has been ingeniously contended; I shall not take upon me to decide. It is sufficient to say, that such an effect appears to be the first general law of the tropical winds. Whatever may be the degree of the sun's influence upon the atmosphere, in his transient diurnal course, it cannot be doubted but that in regard to his station in the path of the ecliptic, his power is considerable. Towards that region of the air which is rarefied by the more immediate presence of his heat, the colder and denser parts will naturally flow. Consequently from about, and a few degrees beyond, the tropics, on either side, the air tends towards the equator; and combining with the general eastern current beforementioned, produces (or would, if the surface were uniform) a N. E. wind in the northern division, and a S. E. in the southern; varying in the extent of its course, as the sun happens to be more or less remote at the time. These are denominated the trade-winds, and are the subject of the second general observation. It is evident that with respect to the middle space between the tropics, those parts which at one season of the year lie to the northward of the sun, are, during another, to the southward of him; and of course that an alternation of the effects last described must take place, according to the relative situation of the luminary: or in other words, that the principle which causes at one time a N. E. wind to prevail at any particular

particular spot in those latitudes, must, when the circumstances are changed, occasion a S. E. wind. Such may be esteemed the outline of the periodical winds, which undoubtedly depend upon the alternate course of the sun, northwards and southwards; and this I state as the third general law. But although this may be conformable with experience in extensive oceans, yet in the vicinity of continents, and great islands, deviations are remarked that almost seem to overturn the principle. Along the western coast of Africa, and in some parts of the Indian seas, the periodical winds, or monsoons, as they are termed in the latter, blow from the W., N. W., and S. W. according to the situation, extent, and nature of the nearest lands; the effect of which upon the incumbent atmosphere, when heated by the sun, at those seasons in which he is vertical, is prodigious, and possibly superior to that of any other cause which contributes to the production or direction of wind. To trace the operation of this irregular principle through the several winds prevalent in India, and their periodical failures and changes, would prove an intricate, but I conceive by no means an impossible task\*. It is foreign however to my present purpose, and I shall only observe, that the N. E. monsoon is changed, on the western coast of Sumatra, to N. W. or W. N. W. by the influence of the land. During the S. E. monsoon, the wind is found to blow there, between that point and S. S. W. Whilst the sun continues near the equator, the winds are variable, nor is their direction fixed till he has advanced several degrees towards the tropic: and this is the cause of the monsoons usually setting in, as I have observed, about May and November, instead of the equinoctial months.

Thus much is sufficient with regard to the periodical winds. I shall proceed to give an account of those distinguished by the appellation of land and sea breezes, which require from me a minuter investigation, both because, as being more local, they more particularly belong to my subject, and that their nature has hitherto been less accurately treated of by naturalists.

Land and Sea  
Breezes.

\* It has been attempted, and with much ingenious reasoning by Mr. Semeyns, in the third Vol. of the *Haerlem Transactions*, which have but lately fallen into my hands.

In this island, as well as all other countries between the tropics, of any considerable extent, the wind uniformly blows from the sea to the land, for a certain number of hours in the four and twenty, and then changes, and blows for about as many from the land to the sea: excepting only when the monsoon rages with remarkable violence, and even at such time the wind rarely fails to incline a few points, *lianté* with the efforts of the subordinate cause, which has not power, under these circumstances, to produce an entire change. On the west coast of Sumatra, the sea breeze usually sets in, after an hour or two of calm, about ten in the forenoon, and continues till near six in the evening. About seven, the land breeze comes off, and prevails through the night, till towards eight in the morning, when it gradually dies away.

Cause of the  
Land and Sea  
Breezes.

These depend upon the same general principle that causes and regulates all other wind. Heat acting upon air, rarefies it, by which it becomes specifically lighter, and mounts upward. The denser parts of the atmosphere, which surround that so rarefied, rush into the vacuity from their superior weight; endeavoring, as the laws of gravity require, to restore the equilibrium. Thus in the round buildings where the manufactory of glass is carried on, the heat of the furnace in the center being intense, a violent current of air may be perceived to force its way in, through doors or crevices, on opposite sides of the house. As the general winds are caused by the *direct* influence of the sun's rays upon the atmosphere, that particular deviation of the current distinguished by the name of land and sea breezes, is caused by the influence of his *reflected* rays, returned from the earth or sea on which they strike. The surface of the earth is more suddenly heated by the rays of the sun, than that of the sea, from its greater density and state of rest; consequently it reflects those rays sooner and with more power: but owing also to its density, the heat is more superficial than that imbibed by the sea, which gets more intimately warmed, by its transparency, and by its motion, continually presenting a fresh surface to the sun. I shall now endeavor to apply these principles. By the time the rising sun has ascended to the height of thirty or forty degrees above the horizon,

th has acquired, and reflected on the body of air situated  
 ere of heat sufficient to rarefy it and destroy its equilibrium;  
 e of which, the body of air above the sea, not being equally,  
 all rarefied, rushes towards the land; and the same causes  
 g as the sun continues above the horizon, a constant sea  
 of air from sea to land, prevails during that time.  
 hour before the set, the surface of the earth begins to lose  
 has acquired from the more perpendicular rays. That  
 influence of course ceases, and a calm succeeds. The warmth imparted  
 to the sea, not so violent as that of the land, but more deeply imbibed,  
 and consequently more permanent, now acts in turn, and by the rarefac-  
 tion it causes, draws towards its region the land air, grown cooler, more  
 dense, and heavier, which continues thus to flow back, till the earth,  
 by a renovation of its heat in the morning, once more obtains the ascen-  
 dency. Such is the general rule, conformable with experience, and  
 founded, as it seems to me, in the laws of motion, and the nature of  
 things. The following observations will serve to corroborate what I have  
 advanced, and to throw additional light on the subject, for the informa-  
 tion and guidance of any future investigator.

The periodical winds which are supposed to blow during six months  
 from the N. W. and as many from the S. E. rarely observe this regula-  
 rity, except in the very heart of the monsoon; inclining, almost at all  
 times, several points to seaward, and not unfrequently blowing from  
 the S. W. or in a line perpendicular to the coast. This must be attri-  
 buted to the influence of that principle which causes the land and sea  
 winds proving on these occasions more powerful than the principle of the  
 periodical winds; which two seem here to act at right angles with each  
 other: and as the influence of either is prevalent, the winds approach to  
 a course perpendicular to, or parallel with the line of the coast. The  
 tendency of the land wind at night has almost ever a correspondence  
 with the sea wind of the preceding or following day, (except when a squall  
 or other sudden alteration of weather, to which these climates are parti-  
 cularly liable, produces an irregularity) not blowing in a direction imme-



diately opposite to it, which would be the case, if the same writers have supposed, merely the effect of the ac-  
 redundance of the latter, without any positive cause, but  
 and contiguous angle, of which the coast is the common  
 if the coast be conceived to run N. and S., the same in-  
 bination of influences, which produces a sea wind at N.  
 a land wind at N. E.; or adapting the case to Sumatra,  
 N. W. and S. E., a sea wind at S. is preceded or followed by  
 wind at E. This remark must not be taken in too strict a sense, but  
 only as the result of general observation. If the land wind, in the course  
 of the night, should draw round from E. to N. it would be looked upon  
 as an infallible prognostic of a W. or N. W. wind the next day. On  
 this principle it is that the natives foretel the direction of the wind  
 by the noise of the surf at night, which if heard from the northward,  
 is esteemed the forerunner of a northerly wind, and *vice versa*. The  
 quarter from which the noise is heard depends upon the course of the  
 land wind, which brings the sound with it, and drowns it to leeward—  
 the land wind has a correspondence with the next day's sea wind—and  
 thus the divination is accounted for.

The effect of the sea wind is not perceived to the distance of more  
 than three or four leagues from the shore in common, and for the most  
 part it is fainter in proportion to the distance. When it first sets in, it  
 does not commence at the remoter extremity of its limits, but very near  
 the shore, and gradually extends itself farther to sea, as the day advances;  
 probably taking the longer or shorter course as the day is more or less  
 hot. I have frequently observed the sails of ships, at the distance of four,  
 six, or eight miles, quite becalmed, whilst a fresh sea breeze was at the time  
 blowing upon the shore. In an hour afterwards they have felt its effect.\*

Passing along the beach about six o'clock in the evening, when the  
 sea breeze is making its full efforts, I have perceived it to blow with a

\* This observation, as well as many others I have made on the subject, I find corroborated in  
 the Treatise before quoted from the Haerlem Transactions, which I had not seen when the present  
 work was first published.



warmth, owing to the heat the sea had by that  
 would soon begin to divert the current of air to-  
 overcome the *vis inertiae* that preserves motion  
 if power has ceased to operate. I have like-  
 of warmth on passing, within two hours  
 lake of fresh water; which proves the  
 more permanent heat than earth:—in the  
 ended cool in crossing the same lake.

Approaching an island situated at a distance from any other land, I  
 was struck with the appearance of the clouds about nine in the morning,  
 which then formed a perfect circle round it, the middle being a clear  
 azure, and resembled what the painters call a Glory. This I account  
 for from the reflected rays of the sun rarefying the atmosphere imme-  
 diately over the island, and equally in all parts, which caused a conflux  
 of the neighbouring air, and with it the circumjacent clouds. These last,  
 tending uniformly to the center, compressed each other at a certain dis-  
 tance from it, and, like the stones in an arch of masonry, prevented each  
 other's nearer approach. That island however does not experience the  
 vicissitude of land and sea breezes, being too small, and too lofty, and  
 situated in a latitude where the trade or perpetual winds prevail in their  
 utmost force. In sandy countries the effect of the sun's rays penetrating  
 deeply, a more permanent heat is produced, the consequence of which  
 should be, the longer continuance of the sea breeze in the evening; and  
 agreeably to this supposition I have been informed, that on the coast of  
 Coromandel it seldom dies away before ten at night. I shall only add on  
 this subject, that the land wind on Sumatra is cold, chilly, and damp;  
 an exposure to it is therefore dangerous to the health, and sleeping in it  
 almost certain death.

The soil of Sumatra may be spoken of generally as a stiff, reddish clay, soil.  
 covered with a stratum or layer of black mould, of no considerable  
 depth. From this there springs a strong and perpetual verdure, of rank  
 grass, brush wood, or timber trees, according as the country has remained

a longer or shorter time undisturbed by the consequences of population, which being in most places extremely thin, it happens that at least three parts in four of the island, and to the southward a much greater proportion, is an impervious forest.

Unevenness of  
Surface.

Along the western coast of the island, the low country, or space of land which extends from the sea shore to the foot of the mountains, is intersected and rendered uneven to a surprising degree by swamps, whose irregular and winding course may in some places be traced in a continual chain for many miles, till they discharge themselves either into the sea, some neighbouring lake, or the fens that are so commonly found near the banks of the larger rivers, and receive their overflowings in the rainy monsoons. The spots of land which these swamps encompass become so many islands and peninsulas, sometimes flat at top, and often mere ridges; having in some places a gentle declivity, and in others descending almost perpendicularly to the depth of an hundred feet. In few parts of the country of Bencoolen, or of the northern districts adjacent to it, could a tolerably level space of four hundred yards square be marked out: about Soongey-lamo in particular, there is not a plain to be met with of the fourth part of that extent. I have often, from an elevated situation, where a wider range was subjected to the eye, surveyed with admiration the uncommon face which nature assumes, and made inquiries and attended to conjectures on the causes of these inequalities. Some chuse to attribute them to the successive concussions of earthquakes, through a course of centuries. But they do not seem to be the effect of such a cause. There are no abrupt fissures; the hollows and swellings are for the most part smooth and regularly sloping, so as to exhibit not unfrequently the appearance of an amphitheatre, and they are clothed with verdure from the summit to the edge of the swamp. From this latter circumstance it is also evident that they are not, as others suppose, occasioned by the falls of heavy rains that deluge the country for one half of the year. The most summary way of accounting for this extraordinary unevenness of surface were to conclude, that in the original construction

of our globe, Sumatra was thus formed by the same hand which raised the sandy plains of Arabia, and raised up the Alps and Andes from the bosom of the clouds. But this is a mode of solution, which, if continued, would become an insuperable bar to all progress in knowledge, by damping curiosity and restraining research. We know from sufficient experience, is not only turned from her natural course by the industry of man, but also sometimes checks her own career. What has happened in some instances it is not fair to suppose may happen in others; nor is it presumption to trace the intermediate causes of events, which are themselves derived from one first, universal, and eternal principle. To me it would seem, that the springs of water with which these parts of the island abound in an uncommon degree, operate directly, though obscurely, to the producing this irregularity of the surface of the earth. They derive their number, and an extraordinary portion of activity, from the loftiness of the ranges of mountains that occupy the interior country, and intercept and collect the floating vapors. Precipitated into rain at such a height, the water acquires in its descent through the fissures or pores of these mountains, a considerable force, which exerts itself in every direction, lateral and perpendicular, to procure a vent. The existence of these copious springs is proved, in the facility with which wells are every where sunk; requiring no choice of ground, but as it may respect the convenience of the proprietor; all situations, whether high or low, being prodigal of this valuable element. Where the approaches of the sea have rendered the cliffs abrupt, innumerable rills, or rather a continued moisture is seen to ooze through, and trickle down the steep. Where, on the contrary, the sea has retired and thrown up banks of sand in its retreat, I have remarked the streams of water, at a certain level, and commonly between the boundaries of the tide, effecting their passage through the loose and feeble barrier opposed to them. In short, every part of the low country is pregnant with springs that labor for the birth; and these continual struggles, this violent activity of subterraneous waters, must gradually undermine the plains above. The earth is imperceptibly excavated, the surface settles in, and hence the inequalities we speak of.

Causes of this inequality.

The



IMP000035772ENG

The operation is slow, but unremitting, and, I conceive, fully capable of the effect.

Mineral and  
Fossil produc-  
tions.  
Gold.

The earth is rich in minerals and other fossil productions. No country has been more famous in all ages for gold, and though the sources from whence it is drawn may be supposed in some measure exhausted, by the avarice and industry of ages, yet at this day the quantity procured is very considerable, and doubtless might be much increased, were the simple labor of the gatherer assisted by a knowledge of the arts of mineralogy. There are also copper mines, whose ore is very rich, and resembles the Japan copper in the appearance of a mixture of gold. Iron ore is collected, smelted, formed into metal, and worked up in the country of Menangkabow. That it abounds in many other places is evident, from the color it is perceived to communicate to the soil. On many parts of the coast, the sand of the beach is of a strong shining black, and is attracted by the loadstone. The steel manufactured at the abovementioned place, has a peculiar temper, and a degree of hardness that has never been imitated in Europe. Tin, called by the French writers *Calin*, is one of the principal export commodities of the island. The country where it chiefly abounds, is in the neighbourhood of Palembang on the east coast, but in many other parts the natives point out its existence, and particularly about Pedatte near Bencoolen. Sulphur is gathered in any quantity about the numerous volcanos. Saltpetre the natives procure, by a process of their own, from the earth which is found impregnated with it; chiefly in extensive caves that have been, from the beginning of time, the haunt of a certain species of birds, of whose dung the soil is formed. Coal, mostly washed down by the floods, is collected in several parts, particularly at Cattown, Ayerrammee, and Bencoolen. It is light, and not esteemed very good, but I am informed that this is the case with all coal found near the surface of the earth. The veins are observed to run, not in an horizontal, but in an inclined direction, and till the pits have some depth, the fossil is of an indifferent quality. The little island of Poolo Pisang, close to the foot of Mount Poogong, is chiefly a bed of rock crystal. Mineral and hot springs have been discovered in many districts. In taste the waters

Copper.

Iron.

Tin.

Sulphur.

Saltpetre.

Coal.

Crystal.

Hot springs.

mostly



mostly resemble those of Harrowgate, being nauseous to the palate. The oleum terræ, or earth oil, used chiefly as a preservative against the destructive ravages of the white ants, is collected at Ippoo and elsewhere.\* There is no species of hard rock to be met with in the low parts of the island, near the sea shore. Besides the ledges of coral, which are covered by the tide, that which generally prevails is the *nappal*, as it is called by the inhabitants, forming the basis of the red cliffs, and not unfrequently the beds of the rivers. Though this *nappal* has the appearance of rock, it possesses in fact so little solidity, that it is difficult to pronounce whether it be a soft stone or only an indurated clay. The surface of it becomes smooth and glossy by a slight attrition, and to the touch resembles soap, which is its most striking characteristic. Except those parts of it, which by long exposure to the air, have acquired a greater degree of hardness, it may easily be cut with a knife or any sharp instrument; it is not soluble in water, and makes no effervescence with acids. Its component parts appear to be clay and sand bound together by a glutinous or saponaceous matter, and its color is either grey, brown, or red, according to the nature of the earth, that prevails in its composition. The red *nappal* has by much the smallest proportion of sand, and seems to possess all the qualities of the steatite or soap earth, found in Cornwall and other countries. The mountain stone is a species of granite, for the most part of a lightish slate colour.

Earth Oil.

Soft Rock.

Where the encroachments of the sea have undermined the land, the cliffs are left abrupt and naked, in some places to a very considerable height. In these many curious fossils are discovered, such as petrified wood, and sea shells of various sorts. Hypotheses on this subject have been so ably supported and so powerfully attacked, that I shall not presume to intrude myself in the lists. I shall only observe, that being so near the sea, many would hesitate to allow such discoveries to be of any weight in proving a violent alteration to have taken place in the surface of the terraqueous globe; whilst, on the other hand, it is unaccountable how, in the common course of natural events, such extraneous matter

Petrification.

\* The fountain of Naphtha or liquid balsam, found at Pedir (*Pedeer*), so much celebrated by the Portuguese writers is doubtless this oleum terræ, or *menia tanna*, as it is called by the Malays.

shoud



Colored  
Earths.

should come to be lodged in strata, at the height above the level of the water, and as many below the Here are likewise found various species of earths, w<sup>h</sup> to valuable purposes, as painters colors and otherwis are the yellow and red, probably ochres, and the description of the *milenum* of the ancients.

Volcanos.

There are a number of volcano mountains in this, as in almost all the other islands of the eastern Archipelago. They are called in the Malay language *goonong appee*. I have never heard of the lava flowing from them in such a quantity as to cause any damage; but this may be owing to the thinness of population, which does not render it necessary for the inhabitants to settle in their neighbourhood. The only volcano I had an opportunity of observing, opened in the side of a mountain, about twenty miles inland of Bencoolen, one fourth way from its top, as nearly as I can judge. It scarcely ever failed to emit smoke, but the column was only visible for two or three hours in the morning, seldom rising and preserving its form, above the upper edge of the hill, which is not of a conical shape, but extending with a gradual slope. The high trees with which the country thereabout is covered, prevent the crater from being discernible at a distance; and this proves, that the spot is not considerably raised or otherwise affected by the eruptions. I could never perceive that it had any connection with the earthquakes, which are very frequently felt there. Sometimes it has emitted smoke upon these occasions, and in other instances, not. Yet during a smart earthquake which happened a few years before my arrival, it was remarked to send forth flame, which it is rarely known to do. The apprehension of the European inhabitants however, is rather more excited, when it continues any length of time without a tendency to an eruption, as they conceive it to be the vent by which the inflammable matter escapes, that would otherwise produce these commotions of the earth. Comparatively with the descriptions I have read of earthquakes in South America and other countries, those which happen in Sumatra, are generally very slight; and the usual manner of building, renders them but little

Earthquakes.

terrible to the natives. The most severe that I have known, was experienced in the district of Manna, in the year 1770. A village was destroyed by the houses falling down and taking fire, and several lives were lost.\* The ground was in one place rent a quarter of a mile, the width of two fathoms, and depth of four or five. A bituminous matter is described to have swelled over the sides of the cavity, and the earth, for a long time after the shocks, was observed to contract and dilate alternately. Many parts of the hills far inland could be distinguished to have given way, and a consequence of this was, that during three weeks, Manna river was so much impregnated with particles of clay, that the natives could not bathe in it. At this time was formed near to the mouth of Padang Goochie, a neighbouring river, south of the former, a large plain, seven miles long and half a mile broad; where there had been before only a narrow beach. The quantity of earth brought down on this occasion was so considerable, that the hill upon which the English resident's house stands, appears, from indubitable marks, less elevated by fifteen feet than it was before the event. Earthquakes have been remarked by some to happen usually upon sudden changes of weather, and particularly after violent heats; but I do not vouch this upon my own experience, which has been pretty ample. They are preceded by a low rumbling noise like distant thunder. The domestic cattle and fowls are sensible of the preternatural motion, and seem much alarmed; the latter making the cry they are wont to do on the approach of birds of prey. Houses situated on a low sandy soil are least affected, and those which stand on distinct hills, suffer most from the shocks, because the further removed from the center of motion, the greater the agitation; and the loose contexture of the one foundation, making less resistance than the solidity of the other, subjects the building to less violence. Ships at anchor in the road, though several miles distant from the shore, are strongly sensible of the concussion.

Remarkable effects of an earthquake.

Besides the new land formed by the convulsions above described, the sea by a gradual recess in some parts, produces the same effect. Many

New Land formed.

\* I am informed that in 1763, an entire village was swallowed up by an earthquake in *Poelo Nera*, one of the islands which lie off the western coast of Sumatra.

instances of this kind, of no considerable extent however, have been observed within the memory of persons now living. But it would seem to me, that that large tract of land, called *Poolo Point*, forming the bay of the name, near to *Silebar*, with much of the adjacent country, has thus been left by the withdrawing, or thrown up by the motion of the sea. Perhaps the point may have been at first an island; from whence its appellation of *Poolo*, and the parts more inland, since gradually united to it. Various circumstances tend to corroborate such an opinion, and to evince the probability that this was not an original portion of the main, but new, half-formed land. All the swamps and marshy grounds that lie within the beach, and near the extremity there are little else, are known, in consequence of repeated surveys, to be lower than the level of high water; the bank of sand alone preventing an inundation. The country is not only quite free from hills or inequalities of any kind, but has scarcely a visible slope. *Silebar* river, which empties itself into *Poolo Bay*, is totally unlike those in other parts of the island. The motion of its stream is hardly perceptible; it is never affected by floods; its course is marked out, not by banks covered with ancient and venerable woods, but by rows of mangroves and other aquatics, springing from the ooze, and perfectly regular. Some miles from the mouth, it opens into a beautiful and extensive lake, diversified with small islands, flat, and verdant with rushes only. The point of *Poolo* is covered with the *Arow* tree, or bastard Pine, as some have called it,† which never grows but in sea sand, and rises fast. None such are found toward *Soongey-lamo*, and the rest of the shore northward of *Marlborough Point*, where on the contrary you perceive the effects of continual depredations by the ocean. The old forest trees are there yearly undermined, and falling, obstruct the traveller; whilst about *Poolo*, the *Arow* trees are continually springing up, faster than they can be cut down or otherwise destroyed. Nature will not readily be forced from her course. The last time I vi-

Encroachment  
of the sea.

\* Since I formed this conjecture, I have been told that such a tradition, of no very ancient date, prevails amongst the inhabitants.

† This *Arow* tree I have reason to think the same with that which Captain Cook observed in the South Seas, and from which he called one low sandy island, the *Isle of Pines*.

sited that part, there was a beautiful rising grove of Pines, establishing a possession in their proper soil. The country, as well immediately hereabout, as to a considerable distance inland, is an entire bed of sand, without any mixture of clay or mould, which I know to have been in vain sought for, many miles up the neighbouring rivers.

But upon what hypothesis can it be accounted for, that the sea should commit depredations on the northern coast, of which there are the most evident tokens, as high up at least as *Ippoo*. and probably to *Indrapour*, where the shelter of the neighbouring islands may put a stop to them, and that it should restore the land to the southward, in the manner I have described? I am aware that according to the general motion of the tides from east to west, this coast ought to receive a continual accession, proportioned to the loss which others, exposed to the direction of this motion, must and do sustain; and it is likely that it does gain upon the whole. But the nature of my work obliges me to be more attentive to effects than causes, and to record facts, though they should clash with systems the most just in theory, and most respectable in point of authority.

The chain of islands which lie parallel with the west coast of Sumatra, may probably have once formed a part of the main, and been separated from it, either by some violent effort of nature, or the gradual attrition of the sea. I should scarcely introduce the mention of this apparently vague surmise, but that a circumstance presents itself on the coast, which affords some stronger color of proof than can be usually obtained in such instances. In many places, and particularly about *Pally* and *Laye*, we observe detached pieces of land standing singly, as islands, at the distance of one or two hundred yards from the shore, which were head-lands of points running out into the sea, within the remembrance of the inhabitants. The tops continue covered with trees or shrubs; but the sides are bare, abrupt, and perpendicular. The progress of insolation here is obvious and incontrovertible, and why may not larger islands, at a greater distance, have been formed, in the revolution of ages, by the same accidents? The probability is heightened by the direction of the islands,

Islands near the west coast, probably once joined to it.



*Neas, Mantawaye, Mego, &c.*, the similarity of soil and productions, and the regularity of soundings between them and the main, whilst without them the depth is unfathomable.

Coral Rocks.

Where the shore is flat or shelving, the coast of Sumatra, as of all other tropical islands, is defended from the attacks of the sea by a reef or ledge of coral rock, on which the surfs exert their violence without further effect than that of keeping its surface even, and reducing to powder those beautiful excrescences and ramifications which have been so much the object of the naturalist's curiosity, and which some ingenious men, who have analysed them, contend to be the work of insects. The coral powder is in particular places accumulated on the shore in great quantities, and appears, when not closely inspected, like a fine white sand.

Surf.

The Surf (a word not to be found, I believe, in our dictionaries) is used in India, and by navigators in general, to express a peculiar swell and breaking of the sea upon the shore; the phenomena of which not having been hitherto much adverted to by writers, I shall be the more circumstantial in my description of them.

The surf forms sometimes but a single range along the shore. At other times there is a succession of two, three, four or more behind each other, extending perhaps half a mile out to sea. The number of ranges is generally in proportion to the height and violence of the surf.

The surf begins to assume its form at some distance from the place where it breaks, gradually accumulating as it moves forward, till it gains a height, in common, of fifteen to twenty feet, when it overhangs at top, and falls, like a cascade, nearly perpendicular, involving itself as it descends. The noise made by the fall is prodigious, and, during the stillness of the night, may be heard many miles up the country.

Though in the rising and formation of the surf, the water seems to have a quick progressive motion towards the land, yet a light body on the surface



surface is not carried forward, but, on the contrary, if the tide is ebbing, will recede from the shore; from which it would follow, that the motion is only propagated in the water, like sound in air, and not the mass of water protruded. A similar species of motion is observed on shaking at one end, a long cord held moderately slack, which is expressed by the word undulation. I have sometimes remarked, however, that a body which sinks deep, and takes hold of the water, will move towards shore with the course of the surf, as is perceptible in a boat landing, which shoots swiftly forward on the top of the swell, though probably it is aided by its own weight in the descent, after having reached the summit, and to that owes its velocity.

Countries where the surfs prevail, require boats of a particular construction, and the art of managing them demands the experience of a man's life. All European boats are more or less unfit, and seldom fail to occasion the sacrifice of the people on board them, in the imprudent attempts that are sometimes made to land with them on the open coast.

The force of the surf is extremely great. I have known it to overset a country vessel in such a manner, that the top of the mast has stuck in the sand, and the lower end made its appearance through her bottom. Pieces of cloth have been taken up from a wreck, twisted and rent by its involved motion.

In some places the surfs are usually greater at high, and in others at low water, but I believe they are uniformly more violent during the spring tides.

I shall proceed to inquire into the efficient cause of the surfs. The winds have doubtless a strong relation to them. If the air was in all places of equal density, and not liable to any motion, I suppose the water would also remain perfectly at rest, and its surface even; abstracting from the general course of the tides, and the partial irregularities occasioned by the influx of rivers. The current of the air impels the

Considerations  
respecting the  
cause of the  
Surf.

the water, and causes a swell, which is the regular rising and subsiding of the waves. This rise and fall is similar to the vibrations of a pendulum, and subject to like laws. When a wave is at its height, it descends by the force of gravity, and the momentum acquired in descending, impels the neighbouring particles, which, in their turn, rise and impel others, and thus form a succession of waves. This is the case in the open sea; but when the swell approaches the shore, and the depth of water is not in proportion to the size of the swell, the subsiding wave, instead of pressing on a body of water, which might rise in equal quantity, presses on the ground, whose reaction causes it to rush on in that manner which we call a surf. Some think that the peculiar form of it may be plainly accounted for from the shallowness and shelving of the beach. When a swell draws near to such a beach, the lower parts of the water meeting first with obstruction from the bottom, stand still, whilst the higher parts respectively move onward, by which a rolling and involved motion is produced, that is augmented by the return of the preceding swell. I object, that this solution is founded on the supposition of an actual progressive motion of the body of water in forming a surf; and that certainly not being the fact, it seems deficient. The only real progression of the water is occasioned by the perpendicular fall, after the breaking of the surf, when, from its weight, it foams on to a greater or less distance, in proportion to the height from which it fell, and the slope of the shore.

That the surfs are not, like common waves, the immediate effect of the wind, is evident from this, that the highest and most violent often happen when there is the least wind, and *vice versa*. And sometimes the surfs will continue with an equal degree of violence during a variety of weather. On the west coast of Sumatra, the highest are experienced during the S. E. monsoon, which is never attended with such gales of wind as the N. W. The motion of the surf is not observed to follow the course of the wind, but often the contrary; and when it blows hard from the land, the spray of the sea may be seen to fly in a direction opposite

opposite to the body of it, though the wind has been for many hours in the same point.

Are the surfs the effect of gales of wind at sea, which do not happen to extend to the shore, but cause a violent agitation throughout a considerable tract of the waters, which motion communicating with less distant parts, and meeting at length with resistance from the shore, occasions the sea to swell and break in the manner described? To this I object, that there seems no regular correspondence between their magnitude, and the apparent agitation of the water without them: that gales of wind, except at particular periods, are very unfrequent in the Indian Seas, where the navigation is well known to be remarkably safe, whilst the surfs are almost continual; and that gales are not found to produce this effect in other extensive oceans. The west coast of Ireland borders a sea nearly as extensive, and much more wild than the coast of Sumata, and yet there, though when it blows hard the swell on the shore is high and dangerous, is there nothing that resembles the surfs of India.

These, so general in the tropical latitudes, are, upon the most probable hypothesis I have been able to form, after long observation, and much thought and inquiry, the consequence of the trade or perpetual winds which prevail, at a distance from shore, between the parallels of thirty degrees north and south, whose uniform and invariable action causes a long and constant swell, that exists even in the calmest weather, about the line, towards which its direction tends from either side. This swell or libration of the sea, is so prodigiously long, and the sensible effect of its height, of course, so much diminished, that it is not often attended to; the gradual slope engrossing almost the whole horizon, when the eye is not very much elevated above its surface: but persons who have sailed in those parts may recollect, that even when the sea is apparently the most still and level, a boat or other object at a distance from the ship, will be hidden from the sight of one looking towards it from the lower deck, for the space of minutes together. This swell, when a squall happens, or the wind freshens up, will, for the time, have other

Probable cause  
of the Surf.

subsidiary

subsidiary waves on the extent of its surface, breaking often in a direction contrary to it, and which will again subside as a calm returns, without having produced on it any perceptible effect. Sumatra, though not continually exposed to the south east trade wind, is not so distant but that its influence may be presumed to extend to it, and accordingly at *Poelo Pesang* near the southern extremity of the island, a constant southerly sea is observed, even after a hard northwest wind. This incessant and powerful swell rolling in from an ocean, open even to the pole, seems an agent adequate to the prodigious effects produced on the coast; whilst its very size contributes to its being overlooked. It reconciles almost all the difficulties which the phenomena seem to present, and in particular it accounts for the decrease of the surf during the N. W. monsoon, the local wind then counteracting the operation of the general one; and it is corroborated by an observation I have made, that the surfs on the Sumatran coast ever begin to break at their southern extreme, the motion of the swell not being perpendicular to the direction of the shore. This manner of explaining their origin seems to carry much reason with it, but there occurs to me one objection which I cannot get over, and which a regard to truth obliges me to state. The trade winds are remarkably steady and uniform, and the swell generated by them is the same. The surfs are much the reverse, seldom persevering for two days in the same degree of violence; often mountains high in the morning, and nearly subsided by night. How comes an uniform cause to produce effects so unsteady, unless by the intervention of secondary causes, whose nature and operation we are unacquainted with?

It is clear to me that the surfs, as above described, are peculiar to those climates which lie within the remoter limits of the trade winds, though in higher latitudes large swells and irregular breakings of the sea are to be met with after boisterous weather. Possibly the following causes may be judged to conspire, with that I have already specified, towards occasioning this distinction. The former region being exposed to the immediate influence of the two great luminaries, the water, from their direct impulse, is liable to more violent agitation than nearer the poles,

poles, where their power is felt only by indirect communication. The equatorial parts of the earth performing their diurnal revolution with greater velocity than the rest, a larger circle being described in the same time, the waters thereabout, from the stronger centrifugal force, may be supposed more buoyant; to feel less restraint from the sluggish principle of matter; to have less gravity; and therefore to be more obedient to external impulses of every kind, whether from the winds or any other cause.

The spring tides on the west coast of Sumatra are estimated to rise in general no more than four feet, as little perhaps as in any part of the globe, owing to its open, unconfined situation, which prevents any accumulation of the tide, as is the case in narrow seas. It is always high water there when the moon is in the horizon, and consequently <sup>at</sup> six o'clock nearly, on the days of conjunction and opposition throughout the year, in parts not far remote from the equator. <sup>ms. b. 1</sup> This, according to Newton's theory, is about three hours later than the uninterrupted course of nature; owing to the obvious impediment the waters meet with in revolving from the eastward. Tides.

\* Owing to this uniformity it becomes an easy matter for the natives to ascertain the height of the tide at any hour that the moon is visible. Whilst she appears to ascend, the water falls, and *vice versa*; the lowest of the ebb happening when she is in her meridian. The rule for calculating the tides is rendered also to Europeans more simple and practical from the same cause. There only needs to add together the exact number of the month, and day of the month; the sum of which, if under thirty, gives the moon's age—the excess, if over. Allow forty-eight minutes for each day, or which is the same, take four-fifths of the age, and it will give you the number of hours after six o'clock, at which high water happens. A readiness at this calculation is particularly useful in a country where the sea beach is the general road for travelling.



*Distinction of Inhabitants.—Rejangs chosen for General Description.*

*—Persons and Complexion.—Clothing and Ornaments.*

General account of the inhabitants.

HAVING exhibited a general view of the island, as it is in the hands of nature, I shall now proceed to a description of the people who inhabit and cultivate it, and shall endeavor to distinguish the several species or classes of them, in such a manner as may best tend to perspicuity, and to present clear ideas of the matter.

Various modes of division.

The most obvious division, and which has been usually made by the writers of voyages, is that of *Mahometan* inhabitants of the sea coast, and *Pagans* of the inland country. This division, though not without its degree of propriety, is vague and imperfect; not only because each description of people differ considerably among themselves, but that the inland inhabitants are, in some places, Mahometans, and those of the coast, in others, what they term Pagans. It is not unusual with persons who have not resided in this part of the east, to call the inhabitants of the islands indiscriminately by the name of *Malays*. This is a more considerable error, and productive of greater confusion than the former. By attempting to reduce things to heads too general, we defeat the very end we propose to ourselves in defining them at all: we create obscurity where we wish to throw light. On the other hand, to attempt enumerating and distinguishing the variety, almost endless, of petty sovereignties and nations, into which this island is divided, many of which differ nothing in person or manners from their neighbours, would be a task both insurmountable and useless. I shall aim at steering a middle course, and accordingly shall treat of the inhabitants of Sumatra under the following summary distinctions, taking occasion as it may offer to mention the principal subdivisions. And first, it is proper to distinguish the empire of

of *Menangkabow* and the *Malays*; in the next place the *Achenese*; then the *Battas*; the *Rejangs*; and next to them the *Lampoons*.\*

*Menangkabow* being the principal sovereignty of the island, which formerly comprehended the whole, and still receives a shadow of homage from the most powerful of the other kingdoms, which have sprung up from its ruins, would seem to claim a right to precedence in description, but I have a sufficient reason for deferring it to a subsequent part of my work; which is, that the people of this empire, by their conversion to

\* Attempts to ascertain from whence the island of Sumatra was originally peopled rest upon mere conjecture. The adjacent peninsula presents the most obvious source of population, and it is accordingly said that Malayan emigrants supplied the Archipelago with inhabitants: no argument, except that of vicinity, can be produced in support of this, not unpalatable, *side*. The Malays, now so called, are in comparison of the internal Sumatran people of yesterday; and though they have spread their language and manners, and wide, since the foundation of Malacca in the thirteenth century, they are considered as invaders only, among the aboriginal people of the eastern islands. I have elsewhere remarked, that one general language prevailed (however mutilated and changed in the course of time) throughout all this portion of the world, from Madagascar to the most distant discoveries eastward, of which the Malay is a dialect, much corrupted, or refined, by a mixture of other tongues. This very extensive similarity of language indicates a common origin of the inhabitants, but the circumstances and progress of their separation are wrapped in the darkest veil of obscurity.

In the course of my inquiries amongst the natives, concerning the aborigines of the island, I have been informed of two different species of people dispersed in the woods, and avoiding all communication with the other inhabitants. These they call *Orang Goofoo*, and *Orang Goofoo*. The former are said to be pretty numerous, especially in that part of the country which lies between *Polembang* and *Jambie*. Some have at times been caught and kept as slaves in *Laboon*, and a man of that place is now married to a tolerably handsome *Goofoo* girl, who was carried off by a party that discovered their huts. They have a language quite peculiar to themselves, and they eat promiscuously whatever the woods afford, as deer, elephant, rhinoceros, wild hog, snakes or monkeys. The *Goofoo* are much scarcer than these, differing in little but the use of speech, from the *Orang Outan* of Borneo; their bodies being covered with long hair. There have not been above two or three instances of their being met with by the people of *Laboon* (from whom my information is derived), and one of these was entrapped many years ago, in much the same manner as the carpenter in Pilpay's *Fables* caught the monkey. He had children by a *Laboon* woman, which also were more hairy than the common race; but the third generation are not to be distinguished from others. The reader will bestow what measure of faith he thinks due, on this relation, the veracity of which I do not pretend to vouch for. It has probably some foundation in truth, but is exaggerated in the circumstances.

Malays.

Mahometanism, and consequent change of manners, have lost in a great degree the genuine Sumatran character, which is the immediate object of my investigation. They are distinguished by the appellation of *Malayo* by the rest of the islanders, which, though originally and strictly denoting an inhabitant of the neighbouring peninsula, is now understood to mean a Mussulman, speaking the Malay language, and belonging, by descent at least, to the kingdom of Menanglebow, or to that part of the sea coast bordering on it, called *Atay Angin*, which extends from thirty-two minutes N. to forty minutes S. latitude. Hereabout a colony from the peninsula evidently settled, from whence their descendants emigrating, took up their residence at different sea ports on the southern coast, as far down as Bencoolen; introduced their language, and scattered where the seeds of their religion, which, as they shot up, either withered, or ~~grew~~ <sup>became</sup> more or less according to the aptness of the soil, and the pains of the laborer. Beyond Bencoolen there are none to be met with, excepting such as have been drawn thither by, and are in the pay of the Europeans. On the eastern side of the island they are settled at the entrance of almost all the navigable rivers, where they more conveniently indulge their natural bent for trade and piracy. It must be observed that the term *Malay*, in common speech, like that of *Moor* on the west of India, is almost synonymous with Mahometan. When the Sumatrans, or natives of any of the eastern islands, learn to read the Arabic character, and submit to circumcision, they are said to become Malays (*munjaddoe Malayo*.) But this is not a proper or accurate mode of speaking. The sultan of Anac Soongey, it is true, ambitious of imitating the sultan of Menanglebow, styles himself and subjects, Malays; yet his neighbour the Pangeran of Soongey Lamo, chief of the Rejangs, who is equally an independent prince, and very enlightened Mahometan, will not allow himself to be other than an original Sumatran.\* Thus much it was necessary I should say, in order to avoid ambiguity concerning

\* He seemed offended at my supposing him a Malayman in a conversation I once had with him on the subject, and replied with some emotion, "*Malayo tedah, Sir; orang ooloe betool faye.*" "No Malay, Sir; I am a genuine, original countryman." The two languages he writes and talks with equal facility, but the Rejang he esteems his mother tongue.

the Malays, of whom a more particular account will be given hereafter.

As the most dissimilar among the other classes into which I have divided the inhabitants, must of course have very many points of mutual resemblance, and many of their habits, customs and ceremonies, in common, it becomes expedient, in order to avoid a troublesome and useless repetition, to single out one class from among them, whose manners shall undergo a particular and complete investigation, and serve as a standard for the whole; the deviation from which, in the other classes, shall afterwards be pointed out, and the most singular and striking usages peculiar to each, superadded. Various circumstances induce me, on this occasion, to give the preference to the Rejangs, though a nation of but small account in the political scale of the island. They are placed in what may be called a central situation, not geographically, but with respect to the encroachments of foreign manners and opinions, introduced by the Malays, from the north, and Javans from the south; which gives them a claim to originality, superior to that of most others. They are a people whose form of government and whose laws extend, with very little variation, over a considerable part of the island, and principally that portion where the connexions of the English lie. There are traditions of their having formerly sent forth colonies to the southward; and in the country of Passummah, the site of their villages is still pointed out; which would prove that they have formerly been of more consideration than they can boast at present. They have a proper language, and a perfect written character, that is become of general use in many remote districts. These advantages point out the Rejang people as an eligible standard of description; and a motive equally strong that induces me to adopt them as such, is, that my situation and connexions on the island, led me to a more intimate and minute acquaintance with their laws and manners, than with those of any other class. I must premise however that the Malay customs having made their way, in a greater or less degree, to every part of Sumatra, it will be totally impossible to discriminate with entire accuracy, those which are original, from

ation of the  
Rejangs adop-  
ted as a stand-  
ard of descrip-  
tion.



from those which are borrowed : and of course, what I shall say of the Rejangs, will apply for the most part, not only to the Sumatrans in general, but may sometimes be, in strictness, proper to the Malays alone, and by them taught to the higher rank of country people.

Situation of  
the Rejang  
country.

The country of the *Rejangs* is divided, to the north west, from the kingdom of *Anac Soongey* (of which *Moco Moco* is the capital) by the small river of *Oeri*, near that of *Cattowan*; which last, with the district of *Inboon* on its banks, bounds it on the north or inland side. The country of *Moofee*, where *Palembang* river takes its rise, forms its limit to the eastward. *Bencoolen* river, precisely speaking, confines it on the south east; though the inhabitants of the district called *Lemba*, extending from thence to *Silebar*, are entirely the same people, in manners and language. The principal rivers, besides those already mentioned, are *Laye*, *Pally*, and *Soongylame*; on all of which the English have factories, the resident or chief being stationed at *Laye*.

Persons of the  
inhabitants.

The persons of the inhabitants of the island, though differing considerably in districts remote from each other, may in general be comprehended in the following description; excepting the Achenese, whose commixture with the Moors of the west of India, has distinguished them from the other Sumatrans.

General de-  
scription.

They are rather below the middle stature; their bulk is in proportion; their limbs are for the most part slight, but well shaped, and particularly small at the wrists and ankles. Upon the whole they are gracefully formed, and I scarcely recollect to have ever seen one deformed person, of the natives.\* The women, however, have the preposterous custom of flattening the noses, and compressing the heads of children newly

\* Ghirardini, an Italian painter, who touched at Sumatra on his way to China in 1698, observes of the Malays,

*Sen di persona tanto ben formata  
Quanto mai finger san pittori industri.*

He speaks in high terms of the country, as being beautifully picturesque.

born,



born, whilst the skull is yet cartilaginous, which increases their natural tendency to that shape. I could never trace the origin of the practice or learn any other reason for moulding the features to this uncouth appearance, but that it was an improvement of beauty in their estimation. Captain Cook takes notice of a similar operation at the island of *Ulitea*. They likewise pull out the ears of infants, to make them stand erect from the head. Their eyes are uniformly dark and clear, and among some, especially the southern women, bear a strong resemblance to the Chinese, in the peculiarity of formation so generally observed of that people. Their hair is strong, and of a shining black; the improvement of both which qualities it probably owes, in great measure, to the constant and early use of coconut oil, with which they keep it moist. The men frequently cut their hair short, not appearing to take any pride in it; the women encourage theirs to a considerable length, and I have known many instances of its reaching the ground. The men are beardless, and have chins so remarkably smooth, that were it not for the Malay priests displaying a little tuft, we should be apt to conclude that nature had refused them this token of manhood. It is the same in respect to other parts of the body, with both sexes; and this particular attention to their persons, they esteem a point of delicacy, and the contrary an unpardonable neglect. The boys, as they approach to the age of puberty, rub their chins, upper lips, and those parts of the body that are subject to superfluous hair, with *ckunam*, (quick lime) especially of shells, which destroys the roots of the incipient beard. The few hairs that afterwards appear, are plucked out from time to time with tweezers, which they always carry about them for that purpose. Were it not for the numerous and very respectable authorities, from which we are assured that the natives of America are naturally beardless, I should think that the common opinion on that subject had been rashly adopted, and that their appearing thus at a mature age, was only the consequence of an early practice, similar to that observed among the Sumatrans. Even now I must confess that it would remove some small degree of doubt from

from my mind, could it be ascertained that no such custom prevails.<sup>m</sup> Their complexion is properly yellow, wanting the red tinge that constitutes a tawny or copper color. They are in general lighter than the Mestees, or half-breed, of the rest of India; those of the superior class, who are not exposed to the rays of the sun, and particularly their women of rank, approaching to a great degree of fairness. Did beauty consist in this one quality, some of them would surpass our brunettes in Europe. The major part of the females are ugly, and many of them even to disgust; yet there are those among them, whose appearance is strikingly beautiful; whatever composition of person, features, and complexion, that sentiment may be the result of.

Color not  
ascribable to  
climate.

The fairness of the Sumatrans, comparatively with other Indians, situated as they are, under a perpendicular sun, where no season of the year affords an alternative of cold, is, I think, an irrefragable proof, that the difference of color in the various inhabitants of the earth, is not the immediate effect of climate. The children of Europeans born in this island are as fair, and perhaps in general fairer, than those born in the country of their parents. I have observed the same of the second generation, where a mixture with the people of the country has been avoided. On the other hand, the offspring and all the descendants of the Guinea and other African slaves imported there, continue in the last instance as perfectly black as in the original stock. I do not mean to enter into the merits of the question which naturally connects with these observations; but shall only remark, that the fallow and adust countenances, so commonly acquired by Europeans who have long resided in hot climates, are more ascribable to the effect of bilious distempers, which almost all are subject to in a greater or less degree, than of their exposure to the influence of the weather, which few but seafaring people are

<sup>m</sup> It is allowed by travellers that the Patagonians have tufts of hair on the upper lip and chin. Captain Carver says, that among the tribes he visited, the people made a regular practice of eradicating their beards with pinners. At Brussels is preserved, along with a variety of ancient and curious suits of armour, that of Montezuma king of Mexico, of which the vizor, or mask for the face, has remarkably large whiskers; an ornament which those Americans could not have imitated, unless nature had presented them with the model.

liable to, and of which the impression is seldom permanent. From this circumstance I have been led to conjecture that the general disparity of complexions in different nations, might *possibly* be owing to the more or less copious secretion, or redundancy of that juice, rendering the skin more or less dark according to the qualities of the bile prevailing in the constitutions of each. But I fear such an hypothesis would not stand the test of experiment, as it must follow, that upon dissection, the contents of a negro's gall bladder, or at least the extravasated bile, should uniformly be found black. Persons skilled in anatomy will determine whether it is possible that the qualities of any animal secretion can so far affect the frame, as to render their consequences liable to be transmitted to posterity in their full force.

The small size of the inhabitants, and especially of the women, may be in some measure owing to the early communication between the sexes; though, as the inclinations which lead to this intercourse are prompted here by nature sooner than in cold climates, it is not unfair to suppose that being proportioned to the period of maturity, this is also sooner attained, and consequently that the earlier cessation of growth of these people, is agreeable to the laws of their constitution, and not occasioned by a premature and irregular appetite.

Persons of superior rank encourage the growth of their hand-nails, particularly those of the fore and little fingers, to an extraordinary length; frequently tinging them red, with the expressed juice of a shrub called *eeni*; as they do the nails of their feet also, to which, being always uncovered, they pay as much attention as to their hands. The hands of the natives, and even of the half breed, are always cold to the touch; which I cannot account for otherwise than by a supposition, that from the less degree of elasticity in the solids, occasioned by the heat of the climate, the internal action of the body, by which the fluids are put in motion, is less vigorous, the circulation is proportionably languid, and of course the diminished effect is most perceptible in the extremities, and a coldness there is the natural consequence.

Hill-people  
subject to wens

The natives of the hills, through the whole extent of the island, are subject to those monstrous wens from the throat, which have been observed of the Vallaisans, and the inhabitants of other mountainous districts in Europe. It has been usual to attribute this affection to the badness, thawed state, mineral quality, or other peculiarity of the waters; many skilful men having applied themselves to the investigation of the subject. My experience enables me to pronounce without hesitation, that the disorder, for such it is, though it appears here to mark a distinct race of people (*orang gunung*), is immediately connected with the hilliness of the country, and of course, if the circumstances of the water they use contribute thereto, it must be only so far as the nature of the water is affected by the inequality or height of the land. But on Sumatra neither snow nor other congelation is ever produced, which militates against the most plausible conjecture that has been adopted concerning the Alpine goitres. From every research that I have been enabled to make, I think I have reason to conclude, that the complaint is owing, among the Sumatrans, to the fogginess of the air in the vallies between the high mountains, where, and not on the summits, the natives of these parts reside. I before remarked, that between the ranges of hills, the *caboot* or dense mist was visible for several hours every morning; rising in a thick, opaque and well defined body, with the sun, and seldom quite dispersed till after noon. This phaenomenon, as well as that of the wens, being peculiar to the regions of the hills, affords a presumption that they may be connected; exclusive of the natural probability that a cold vapor, gross to an uncommon degree, and continually enveloping the habitations, should affect with tumors the throats of the inhabitants. I cannot pretend to say how far this solution may apply to the case of the goitres, but I recollect it to have been mentioned, that the only method of curing these people, is by removing them from the vallies to the clear and pure air on the tops of the hills; which seems to indicate a similar source of the distemper with what I have pointed out. The Sumatrans do not appear to attempt any remedy for it, the wens being consistent with the highest health in other respects.

The personal difference between the Malays of the coast, and the country inhabitants, is not so strongly marked but that it requires some experience to distinguish them. The latter, however, possess an evident superiority in point of size and strength, and are fairer complexioned, which they probably owe to their situation, where the atmosphere is colder; and it is generally observed, that people living near the sea shore, and especially when accustomed to navigation, are darker than their inland neighbours. Some attribute the disparity in constitutional vigor, to the more frequent use of opium among the Malays, which is supposed to debilitate the frame; but I have noted that the Leemoo and Batang Afly gold traders, who are a colony of that race settled in the heart of the island, and who cannot exist a day without opium, are remarkably hale and stout; which I have known to be observed with a degree of envy by the opium-smokers of our settlements. The inhabitants of Passummah also, are described as being more robust in their persons, than the planters of the low country.

Difference in person between Malays and other Sumatrans.

The original clothing of the Sumatrans is the same with that found by navigators among the inhabitants of the South Sea islands, and now generally called by the name of Otaheitean cloth. It is still used among the Rejangs for their working dress, and I have one in my possession, procured from these people, consisting of a jacket, short drawers, and a cap for the head. This is the inner bark of a certain species of tree, beat out to the degree of fineness required; approaching the more to perfection, as it resembles the softer kind of leather, some being nearly equal to the most delicate kid-skin; in which character it somewhat differs from the South Sea cloth, as that bears a resemblance rather to paper, or to the manufacture of the loom. The country people now conform in a great measure to the dress of the Malays, which I shall therefore describe in this place, observing that much more simplicity still prevails among the former, who look upon the others as coxcombs who lay out all their substance on their backs, whilst, in their turns, they are regarded by the Malays with contempt, as unpolished rustics.

Clothing.



Man's dress.

A man's dress consists of the following parts. A close waistcoat, without sleeves, but having a neck like a shirt, buttoned close up to the top, with buttons, often, of gold filagree. This is peculiar to the Malays. Over this they wear the *badjoo*, which resembles a morning gown, open at the neck, but fastened close at the wrists and half way up the arm, with nine buttons to each sleeve. The *badjoo* worn by young men is open in front no farther down than the bosom, and reaches no lower than the waist, whereas the others hang loose to the knees, and sometimes to the ancles. They are made usually of blue or white cotton cloth; for the better sort, of chintz, and for great men, of flowered silks. The *cayen sarrong* is not unlike a Scots highlander's plaid in appearance, being a piece of party colored cloth about six or eight feet long, and three or four wide, sewed together at the ends; forming, as some writers have described it, a wide sack without a bottom. This is sometimes gathered up, and slung over the shoulder like a sash, or else folded and tucked about the waist and hips; and in full dress it is bound on by the belt of the *creese* (dagger), which is of crimson silk, and wraps several times round the body, with a loop at the end, in which the sheath of the *creese* hangs. They wear short drawers, reaching half way down the thigh, generally of red or yellow taffeta. There is no covering to their legs or feet. Round their heads they fasten, in a particular manner, a fine, colored handkerchief, so as to resemble a small turban; the country people usually twisting a piece of white or blue cloth for this purpose. The crown of their head remains uncovered, except on journies, when they wear a *toodong* or umbrella-hat, which completely screens them from the weather.

Woman's dress.

The women have a kind of bodice, or short waistcoat rather, that defends the breasts, and reaches to the hips. The *cayen sarrong*, before described, comes up as high as the armpits, and extends to the feet, being kept on simply by folding and tucking it over, at the breast, except when the *tallee-pending*, or zone, is worn about the waist, which forms an additional and necessary security. This is usually of embroidered cloth, and sometimes a plate of gold or silver, about two inches broad, fastening

fastening in the front with a large clasp of filagree or chased work, with some kind of precious stone, or imitation of such, in the center. The badjoo, or upper gown, differs little from that of the men, buttoning in the same manner at the wrists. A piece of fine, thin, blue cotton cloth, about five feet long, and worked or fringed at each end, called a *salendang*, is thrown across the back of the neck, and hangs down before; serving also the purpose of a veil to the women of rank when they walk abroad. The handkerchief is carried, either folded small in the hand, or at length over the shoulder. There are two modes of dressing the hair, one termed *coondye*, and the other *jangoll*. The first resembles much the fashion in which we see the Chinese women represented in paintings, and which I conclude they borrowed from thence, where the hair is wound circularly over the center of the head, and fastened with a silver bodkin or pin. In the other mode, which is more general, they give the hair a single turn as it hangs behind, and then doubling it up, they pass it crosswise, under a few hairs separated from the rest, on the back of the head, for that purpose. A comb, often of tortoiseshell, and sometimes filagreed, helps to prevent it from falling down. The hair of the front, and of all parts of the head, is of the same length, and when loose, hangs together behind, with most of the women, in very great quantity. It is kept moist with oil, commonly of the coco-nut, but those persons who can afford it make use of an empyreumatic oil extracted from gum Benjamin, as a grateful perfume. They wear no covering, except ornaments of flowers, which, on particular occasions, are the work of much labor and ingenuity. The head dresses of the dancing girls by profession, who are usually Javans, are very artificially wrought, and as high as any modern English lady's cap, yielding only to the feathered plumes of the year 1777. It is impossible to describe in words these intricate and fanciful matters, so as to convey a just idea of them. The flowers worn in undress are, for the most part, strung in wreaths, and have a very neat and pretty effect, without any degree of gaudiness, being usually white or pale yellow, small, and frequently only half blown. Those generally chosen for these occasions, are the *boongo-tanjong* and *boongo-mel-ber*: the *boongo-choompaco* is used to give the hair a fragrance, but is concealed

concealed from the sight. They sometimes combine a variety of flowers in such a manner as to appear like one, and fix them on a single stalk; but these, being more formal, are less elegant, than the wreaths.

Distinguishing  
ornaments of  
virgins.

Among the country people, particularly in the southern countries, the virgins (*orang gauldes*, or goddesses, as it is usually pronounced) are distinguished by a fillet which goes across the front of the hair, and fastens behind. This is commonly a thin plate of silver, about half an inch broad: those of the first rank have it of gold, and those of the lowest class have their fillet of the leaf of the *neepah* tree. Besides this peculiar ornament, their state of pucelage is denoted by their having rings or bracelets of silver or gold on their wrists. Strings of coins round the neck are universally worn by children, and the females, before they are of an age to be clothed, have, what may not be inaptly termed, a modesty-piece, being a plate of silver in the shape of a heart, hung before by a chain of the same metal, passing round the waist. The young women in the country villages manufacture themselves the cloth that constitutes the principal, and often the only part of their dress, or the *cayen sarong*, and this reaches from the breast no lower than the knees. Those worn by the Malay women, and men also, come from the Bugguefs islands to the eastward, and with them extend as low as the feet; but here, as in other instances, the more scrupulous attention to appearances does not accompany the superior degree of real modesty.

Mode of filing  
teeth.

Both sexes have the extraordinary custom of filing and otherwise figuring their teeth, which are naturally very white and beautiful, from the simplicity of their food. For a file, they make use of a small whetstone, and the patients lie on their back during the operation. Many, particularly the women of the Lampoon country, have their teeth rubbed down quite even with the gums; others have them formed in points, and some file off no more than the outer coat and extremities, in order that they may the better receive and retain the jetty blackness, with which they almost universally adorn them. The black used on these occasions is the empyreumatic oil of the coco-nut shell. When this is not applied, the  
filing

filing does not, by destroying what we term the enamel, diminish the whiteness of the teeth. The great men sometimes set theirs in gold, by casing, with a plate of that metal, the under row; and this ornament, contrasted with the black dye, has, by lamp or candle light, a very splendid effect. It is sometimes indented to the shape of the teeth, but more usually quite plain. They do not remove it either to eat or sleep.

At the age of about eight or nine, they bore the ears of the female children; which is a ceremony that must necessarily precede their marriage. This they call *betenday*, as they call filing their teeth *bedabang*; both which operations are regarded in the family, as the occasions of a festival. They do not here, as in some of the adjacent islands, (of *Neas* in particular) increase the aperture of the ear to a monstrous size, so as in many instances to be large enough to admit the hand, the lower parts being stretched till they touch the shoulders. Their earrings are mostly of gold filagree, fastening, not with a clasp, but in the manner of studs.

Villages.

*Villages.—Buildings.—Domestic Utensils.—Food:*

I SHALL now attempt a description of the villages and buildings of the Sumatrans, and proceed to their domestic habits of œconomy, and those simple arts, on which the procuring of their food and other necessities depends. These are not among the least interesting objects of philosophical speculation. In proportion as the arts in use with any people are connected with the primary demands of nature, they carry the greater likelihood of originality, because those demands must have been administered to, from a period coëval with the existence of the people themselves. Or if complete originality be regarded as a visionary idea, engendered from ignorance and the obscurity of remote events, such arts must be allowed to have the fairest claim to antiquity at least. Arts of accommodation, and more especially of luxury, are commonly the effect of imitation, and suggested by the improvements of other nations, which have made greater advances towards civilization. These afford less striking and characteristic features, in delineating the picture of mankind; and though they may add to the beauty, diminish from the genuineness of the piece. We must not look for unequivocal generic marks, where the breed, in order to mend it, has been crossed by a foreign mixture. All the arts of primary necessity are comprehended within two distinctions: those which protect us from the inclemency of the weather and other outward accidents; and those which are employed in securing the means of subsistence. Both are immediately essential to the continuance of life, and man is involuntarily and immediately prompted to exercise them, by the urgent calls of nature, even in the merest possible state of savage and uncultivated existence. In climates like that of Sumatra, this impulse extends not far. The human machine is kept going with small effort, in so favorable a medium. The spring of importunate necessity there soon loses its force, and consequently the wheels of invention that depend upon it, fail to perform more than a few



few simple revolutions. In regions less mild this original motive to industry and ingenuity, carries men to greater lengths, in the application of arts to the occasions of life; and which of course, in an equal space of time, attain to greater perfection, than among the inhabitants of the tropical latitudes, who find their immediate wants supplied with facility, and beyond what these require, prefer simple inaction, to convenience procured by labor. This consideration may perhaps tend to reconcile the high antiquity universally allowed to Asiatic nations, with the limited progress of arts and sciences among them; in which they are manifestly surpassed by people who, compared with them, are but of very recent date.

The Sumatrans, however, in the construction of their habitations, have stepped many degrees beyond those rude contrivances, which writers describe the inhabitants of some other Indian countries to have been contented with adopting, in order to screen themselves from the immediate influence of surrounding elements. Their houses are not only permanent, but convenient, and are built in the vicinity of each other, that they may enjoy the advantages of mutual assistance and protection, resulting from a state of society.

The *doofoons* or villages, for the small number of inhabitants assembled in each does not entitle them to the appellations of towns, are always situated on the banks of a river or lake, for the convenience of bathing, and of transporting goods. An eminence difficult of ascent, is usually made choice of, for security. The access to them is by footways, narrow and winding, of which there are seldom more than two; one to the country, and the other to the water; the latter in most places so steep, as to render it necessary to cut steps in the cliff or rock. The doofoons being surrounded with abundance of fruit trees, some of considerable height, as the *doreqn*, *coco* and *betel-nut*, and the neighbouring country, for a little space about, being in some degree cleared of wood, for the rice and pepper plantations; they strike the eye at a distance as clumps merely, exhibiting no appearance of a town or any place

of habitation. The rows of houses form commonly a quadrangle, with passages or lanes at intervals between the buildings, where, in the more considerable villages, live the lower class of inhabitants, and where also their paddee-houses or granaries are erected. In the middle of the square stands the *bali*, or town hall, a room about fifty to an hundred feet long, and twenty or thirty wide, without division, and open at the sides, excepting when on particular occasions it is hung with mats or chintz.

\* Buildings.

In their buildings neither stone, brick, nor clay, are ever made use of, which is the case in most countries where timber abounds, and where the warmth of the climate renders the free admission of air, a matter rather to be desired, than guarded against: but in Sumatra the frequency of earthquakes is alone sufficient to have prevented the natives from adopting a substantial mode of building. The frames of the houses are of wood, the underplate resting on pillars of about six or eight feet in height, which have a sort of capital, but no base, and are wider at top than at bottom. The people appear to have no idea of architecture as a science, though much ingenuity is often shewn in the manner of working up their materials, and they have, the Malays at least, technical terms corresponding to all those employed by our house carpenters. Their conception of proportions is extremely rude, often leaving those parts of a frame which have the greatest bearing, with the weakest support, and lavishing strength upon inadequate pressure. For the floorings they lay whole *bamboos* (a well known species of large cane) of four or five inches diameter, close to each other, and fasten them at the ends to the timbers. Across these are laid laths of split bamboo, about an inch wide and of the length of the room, which are tied down with filaments of the *rattan*; and over these are usually spread mats of different kinds. This sort of flooring has an elasticity, alarming to strangers when they first tread on it. The sides of the houses are generally closed in with *paloepe*, which is the bamboo half split, opened, and rendered flat by notching the circular joints within, and laying it to dry in the sun, pressed down with weights. This is sometimes nailed on to the upright timbers

timbers or bamboos, but in the country parts, it is more commonly interwoven, or matted, in breadths of six inches, and a piece, or sheet, formed at once of the size required. In some places they use for the same purpose the *cooliteayo*, or coolicoy, as it is pronounced by the Europeans, who employ it on board ship, as dunnage, in pepper and other cargos. This is a bark procured from some particular trees, of which the *boonoot* and *eeboo* are the most common. When they prepare to take it, the outer rind is first torn or cut away; the inner, which affords the material, is then marked out with a *prang*, *pateel*, or other tool, to the size required, which is uniformly three cubits by one; it is afterwards beaten for some time with a heavy stick, to loosen it from the stem, and being peeled off, is laid in the sun to dry, care being taken to prevent its warping. The thicker or thinner sorts of the same species of *cooliteayo*, owe their difference to their being taken nearer to, or farther from, the root. That which is used in building has nearly the texture and hardness of wood. The pliable and delicate bark of which clothing is made, is procured from a tree called *calawee*, a bastard species of the bread-fruit.

The most general mode of covering houses is with the *attap*, which is the leaf of a species of palm called *neepab*. These, previous to their being laid on, are formed into sheets of about five feet long, and as deep as the length of the leaf will admit; they are then disposed on the roof, so as that one sheet shall lap over the other, and are tied to the bamboos which serve for rafters. There are various other kinds of covering used. The *cooliteayo*, before described, is sometimes employed for this purpose: the *galoompye*—this is a thatch of narrow, split bamboos, six feet in length, placed in regular layers, each reaching within two feet of the extremity of that beneath it, by which a treble covering is formed: *ejoo*—this is a vegetable production, so nearly resembling horse hair as scarcely to be distinguished from it. It envelopes the stem of that species of palm called *ānou*, from which the best toddy or palm wine is procured, and is employed by the natives for a great variety of purposes. It is bound on as a thatch, in the manner we do straw, and

not unfrequently over the galoompye; in which case the roof is so durable as never to require renewal, the *cjoo* being of all vegetable substances the least prone to decay, and for this reason it is a common practice to wrap a quantity of it round the ends of timbers or posts which are to be fixed in the ground. I saw a house about twenty miles up Manna river, belonging to Dupatty Bandar Augoong, the roof of which was of fifty years standing. The larger houses have three pitches in the roof; the middle one, under which the door is placed, being much lower than the other two. In smaller houses there are but two pitches which are always of unequal height, and the entrance is in the smaller, which covers a kind of hall, or cooking room.

There is another kind of house, erected mostly for a temporary purpose, the roof of which is flat, and is covered in a very uncommon, simple, and ingenious manner. Large, straight bamboos are cut of a length sufficient to lie across the house, and being split exactly in two, and the joints knocked out, they are disposed in an order alternately concave and convex, in such manner that each of the latter falls into two of the former which lie next it, something like the laying of pantiles. The convex bamboos perfectly defend the building from rain, and the concave serve as gutters to carry the water off.\*

The mode of ascent to the houses is by a piece of timber, or stout bamboo cut in notches, which latter an European cannot avail himself of, especially as the precaution is seldom taken of binding them fast. These are the wonderful light scaling ladders, which the old Portuguese writers described to have been used by the people of Acheen in their wars with their nation. It is probable that the apprehension of danger from the wild beasts, caused them to adopt and continue this rude expedient, in preference to more regular and commodious steps. The detached buildings in the country, near to their plantations, called *tal-*

\* I find that the original inhabitants of the Philippine islands covered their buildings in the same manner.



*longs*, they raise to the height of ten or twelve feet from the ground, and make a practice of taking up their ladder at night, to secure themselves from the destructive ravages of the tigers. I have been assured, but will not pledge myself for the truth of the story, that an elephant, attempting to pass under one of these houses, which stand on four or six posts, stuck by the way, but disdaining to retreat, carried it, with the family it contained, on his back, to the distance of several miles.

In the buildings of the doosoons, particularly where the most respectable families reside, the wood-work in front is carved, in the style of bas-relief, into a variety of uncouth ornaments, and grotesque figures, not much unlike the Egyptian hieroglyphics, but certainly without any mystic or historical allusion.

The furniture of their houses, corresponding with their manner of living, is very simple, and consists of but few articles. Their bed is a mat, usually of fine texture, and manufactured for the purpose, with a number of pillows, worked at the ends, and adorned with a shining substance that resembles foil. A sort of canopy or valance, formed of various colored cloths, hangs over head. Instead of tables, they have what resemble large wooden salvers, with feet, called *doolang*; round each of which three or four persons dispose themselves; and on these are laid the *tallans* or brass waiters, which hold the cups that contain their curry, and plaintain leaves, or matted vessels, filled with rice. Their mode of sitting is not cross-legged, as the inhabitants of Turkey, and our taylors, use, but either on the haunches, or on the left side, supported by the left hand, with the legs tucked in on the right side; leaving that hand at liberty, which they always, from motives of delicacy, scrupulously eat with; the left being reserved for less cleanly offices. Neither knives, spoons, nor any substitutes for them, are employed; they take up the rice, and other victuals, between their thumb and fingers, and dexterously throw it into the mouth by the action of the thumb, dipping frequently their hands in water as they eat.

Furniture.

They



## Utenfils.

They have a little coarse china, imported by the Bugguets praws, which is held a matter of luxury. In cooking they employ a kind of iron vefſel, well known in India by the name of *quall'e* or tauch, reſembling in ſhape the pans uſed in ſome of our manufactures, having the rim wide, and bottom narrow. Theſe are likewiſe brought from the eaſtward. The *preco* and *belango*, ſpecies of earthen pipkins, are in more common uſe, being made in ſmall quantities in different parts of the iſland, particularly in Lamproon, where they give them a ſort of glazing; but the greater number of them are imported from Bantam. The original Sumatran veſſel for boiling rice, and which is ſtill much uſed for that purpoſe, is the *bamboo*; that material of general utility, with which bountiful nature has ſupplied an indolent people. By the time the rice is dreſſed, the utenſil is nearly deſtroyed by the fire, but reſiſts the flame ſo long as there is moiſture within.

## Fires.

Fire being wanted among theſe people but occaſionally, and only when they cook their victuals, there is not much attention paid, in their buildings, to provide conveniencies for it. Their houſes have no chimnies, and their fire-places are no more than a few looſe bricks, or ſtones, diſpoſed in a temporary manner, and frequently on the landing-place before the doors. The fuel made uſe of is wood alone; the coal which the iſland produces never being converted by the inhabitants to that purpoſe. The flint and ſteel for ſtriking fire are common in the country, but it is a practice certainly borrowed from ſome other people, as that ſpecies of ſtone is not, I believe, a native of the ſoil. Theſe generally form part of their travelling apparatus, and eſpecially with thoſe men called *reeſows* (ſpendthrifts that turn freebooters), who find themſelves often obliged to take up their habitation in the woods, or in deſerted houſes. But they alſo frequently kindle fire from the friction of two ſticks. They chuſe a piece of dry, porous wood, and cutting ſmooth a ſpot of it, lay it in an horizontal direction. They then apply a ſmaller piece, of a harder ſubſtance, with a blunt point, in a perpendicular poſition, and turn it quickly round, between the two hands, as chocolate is milled, preſſing it downwards at the ſame time. A hole is ſoon formed by this motion

Mode of kind-  
ling them.

of

of the smaller stick; but it has not penetrated far before the larger one takes fire. I have also seen the same effect produced, more simply, by rubbing one bit of bamboo, with a sharp edge, across another.\*

Water is conveyed from the spring, in bamboos, which for this purpose, are cut, either to the length of five or six feet, and carried over the shoulder, or into a number of single joints, that are put together in a basket. It is drunk out of the fruit called *laboo* here, resembling the *calabash* of the West Indies, a hole being made in the side of the neck, and another at top for vent. In drinking, they generally hold the vessel at a distance above their mouths, and catch the stream as it descends. Baskets (*bronong*, *baccole*) are a considerable part of the furniture of a man's house, and the number of these seen hanging up, are tokens of the owner's substance: for in them his harvests, of rice or pepper, are

\* This mode of kindling fire is not peculiar to Sumatra: we read of the same practice in Africa, and even in Kamtschatka. It is surprizing, but confirmed by abundant authority, that many nations of the earth, have, at certain periods, being ignorant of the use of fire. To our immediate apprehension, human existence would seem in such circumstances impossible. Every art, every convenience, every necessary of life, is now in the most intimate manner connected with it: and yet the Chinese, the Egyptians, the Phœnicians, and Greeks acknowledged traditions concerning its first discovery in their respective countries. But, in fact, if we can once suppose a man, or society of men, unacquainted with the being and uses of this element, I see no difficulty in conceiving the possibility of their supporting life without it; I mean in the tropical climates; and of centuries passing before they should arrive at the important discovery. It is true that lightning and its effects, volcanos, the firing of dry substances by fortuitous attrition, or of moist, by fermentation, might give them an idea of its violent and destructive properties; but far from being thence induced to appropriate and apply it, they would, on the contrary, dread and avoid it, even in its less formidable appearances. They might be led to worship it as their deity, but not to cherish it as their domestic. There is some reason to conclude that the man who first reduced it to subjection, and rendered it subservient to the purposes of life, procured it from the collision of two flints; but the sparks thus produced, whether by accident or design, might be observed innumerable times, without its suggesting a beneficial application. In countries where those did not present themselves, the discovery had, most probably, its origin in the rubbing together of dry sticks, and in this operation, the agent and subject co-existing, flame, with its properties and uses, became more immediately apparent. Still, as no previous idea was conceived of this latent principle, and consequently no search made, no endeavors exerted, to bring it to light, I see not the impossibility *a priori*, of its remaining almost as long concealed from mankind, as the properties of the loadstone, or the qualities of gunpowder,

gathered and brought home ; no carts being employed in the interior parts of the island, which I am now describing. They are made of slices of bamboo, connected by means of split rattans ; and are carried, chiefly by the women, on the back, supported by a string, or band, across the forehead.

Although the Sumatrans live, in a great measure, upon vegetable food, they are not restrained, by any superstitious opinion, from other aliments, and accordingly, at their entertainments, the flesh of the buffalo (*carbow*), goat, and fowls, are served up. Their dishes are almost all prepared in that mode of dressing, to which we have given the name of curry, (from an Hindostanic word) and which is now universally known in Europe. It is called in the Malay language, *goolye*, and may be composed of any kind of edible, but is generally of flesh or fowl, with a variety of pulse and succulent herbage, stewed down with certain ingredients, by us termed, when mixed and ground together, curry powder. These ingredients are, among others, the cayenne or chili pepper, turmeric, serraye or lemon grass, cardamums, garlick, and the pulp of the coco-nut bruised to a milk resembling that of almonds, which is the only liquid made use of. This differs from the curries of Madras and Bengal, which have greater variety of spices, and want the coco-nut. It is not a little remarkable, that the common pepper, the chief produce and staple commodity of the country, is never mixed by the natives in their food. They esteem it heating to the blood, and ascribe a contrary effect to the cayenne ; which, I can say, my own experience justifies. A great diversity of curries is usually served up at the same time, in small vessels, each flavored, to a nice discerning taste, in a different manner ; and in this consists all the luxury of their tables. Let the quantity or variety of meat be what it may, the principal article of their food is rice, which is eaten in a large proportion with every dish, and very frequently without any other accompaniment than salt and chili pepper. It is prepared by boiling in a manner peculiar to India ; its perfection, next to cleanness and whiteness, consisting in its being, when thoroughly dressed and soft to the heart, at the same time whole and separate, so that no two grains

grains shall adhere together. The manner of effecting this, is by putting into the earthen or other vessel in which it is boiled, no more water than is sufficient to cover it; letting it simmer over a slow fire; taking off the water by degrees with a flat ladle or spoon, that the grain may dry, and removing it when just short of burning. At their entertainments, the guests are treated with rice prepared also in a variety of modes, by frying it in cakes, or boiling it, mixed with the kernel of the coco-nut and fresh oil, in small joints of bamboo. This is called *lemmang*. Before it is served up, they cut off the outer rind of the bamboo, and the soft inner coat is peeled away by the person who eats.

They dress their meat immediately after killing it, while it is still warm, which is conformable with the practice of the ancients, as recorded in Homer and elsewhere, and in this state it is said to eat tenderer than when kept for a day: longer the climate will not admit of, unless when it is preserved in that mode called *dinding*: This is the flesh of the buffalo cut into small thin steaks, and exposed to the heat of the sun in fair weather, generally on the thatch of their houses, till it is become so dry and hard as to resist putrefaction, without any assistance from salt. Fish is preserved in the same manner, and cargoes of both are sent from parts of the coast, where they are in plenty, to those where provisions are in more demand. It is seemingly strange, that heat, which, in a certain degree, promotes putrefaction, should, when violently increased, operate to prevent it; but it must be considered that moisture also is requisite to the former effect, and this is absorbed in thin substances, by the sun's rays, before it can contribute to the production of maggots.

*Blachang*, a preservation, if it may be so termed, of an opposite kind, is esteemed a great delicacy among the Malays, and is by them exported to the west of India. The country Sumatrans seldom procure it. It is a species of caviare, and is extremely offensive and disgusting to persons who are not accustomed to it, particularly the black kind, which is the most common. The best sort, or the red blachang, is made of the



spawn of shrimps, or of the shrimps themselves, which they take about the mouths of rivers. They are left in the sun to dry, then pounded in a mortar, with salt, moistened with a little water, and formed into cakes, which is all the process. The black fort, used by the lower class, is made of small fish, prepared in the same manner. On some parts of the east coast of the island, they salt the roes of large fish, and preserve them perfectly dry, and well flavored.

When the natives kill a buffalo, which is always done at their public meetings, they do not cut it up into joints, as we do an ox, but into small pieces of flesh, or steaks, which they call *bantye*. The hide of the buffalo is scalded, scraped, and hung up to dry in their houses, where it shrivels, and becomes perfectly hard. When wanted for use, a piece is chopped off, and being stewed down for a great number of hours, in a small quantity of water, forms a rich jelly, which, properly seasoned, is esteemed a very delicate dish.

The sago (*sago*), though common on Sumatra, and used occasionally by the natives, is not an article of food of such general use among them, as with the inhabitants of many other eastern islands, where it is employed as a substitute for rice. The tree which yields it, is a species of palm, whose trunk contains a glutinous pith, that being soaked, dried, and granulated, becomes the sago of our shops, and has been too frequently and accurately described to need a repetition from me. Millet (*randa jaou*) is also cultivated for food, but not in any considerable quantity.

When these several articles of subsistence fail, the Sumatran has recourse to those wild roots, herbs, and leaves of trees, which the woods abundantly afford in every season, without culture, and which the habitual simplicity of his diet teaches him to consider as no very extraordinary circumstance of hardship. Hence it is that famines in this island, or, more properly speaking, failures of crops of grain, are never attended with those dreadful consequences, which more improved countries, and more provident nations experience.

*Agriculture.*



*Agriculture.—Rice, its Cultivation, &c.—Plantations of Coco, Betel-nut, and other Trees, for Domestic use.—Dye Stuffs.*

FROM their domestic œconomy I am led to take a view of their Agriculture. labors in the field, their plantations and the state of agriculture amongst them, which an ingenious writer esteems the justest criterion of civilization.

The most important article of cultivation, not on Sumatra alone, but Rice. throughout the east, is rice. It is the grand material of food, on which an hundred millions of the inhabitants of the earth subsist, and although chiefly confined by nature to the regions included between, and bordering on the tropics, its cultivation is probably more extensive than that of wheat, which the Europeans are wont to consider as the universal staff of life. In the continent of Asia, as you advance to the northward, you come to the boundary where the plantations of rice disappear, and the wheat fields commence; the cold felt in that climate, owing in part to the extreme height of the land, being unfriendly to the production of the former article.

Rice (*bras*) whilst in the husk, is in India called *paddee*, and assumes a different name in each of its other various states. We observe no distinction of this kind in Europe, where our grain retains through all its stages, till it becomes flour, its original name of barley, wheat or oats.\* Among people whose general objects of contemplation are few,

\* The following, beside many others, are names applied to rice, in its different stages of growth and preparation: *paddee*, original name of the seed: *ossay*, grain of last season: *biunna*, the plants before removed to the sawoos: *bras* or *bray*, rice, the husk of the *paddee* being taken off: *charroop*, rice cleaned for boiling: *nassie*, boiled rice: *peerang*, yellow rice: *jambar*, a service of rice, &c.



I shall speak first of the cultivation of the *Laddang* or upland paddee. This is sown, as is obvious from the name, in high grounds, and almost universally on the site of old woods, on account of the superior richness of the soil; the continual fall and rotting of the leaves, forming there a bed of vegetable mould, which the open plains cannot afford, being exhausted, by the powerful operation of the sun's rays, and the constant production of a rank grass, called *lallang*. When this *lallang*, with which the eastern islands are for the most part covered, where the ground is free from wood, is kept under by frequent mowing, or

Upland paddee  
or rice.

cuttle, its room is supplied with grass of a finer texture. At the same, identical species of grass undergoes this change, when fresh seeds are sown, and the change uniformly takes place, without an evident mistake, as the generic characters of the two are different, the one being the *gramen caricifum*, and the other the *gramen aciculatum*, described by Rumphius. The former, which grows to the height of five feet, is remarkable for the whiteness of its blossoms, which is its blossom, and the other for the sharpness of its seeds, which prove extremely troublesome to walk among it.

Of the fertility which it occasions, the natives do not lose sight, and the abundance of wood in the country, as an inconvenience,

"*gramen caricifum*. Hoc totos occupat campos, nudoque colles; tam densè & latè germinans, ut, è longinquo haberetur campus oryza confusus: tam luxuriòse & fortiter crescit, ut neque hortos neque sylvas evitet, atque tam vehementer proripit, ut arcae vix depurari ac servari possint, licet quotidie deambulentur." . . . . . "*Gramen aciculatum*. Ufus ejus fere nullus est, sed hic detegendum est radiosum ludibrium, quod quis habet, si per campos, vel in sylva procedat, ubi hoc gramen ad vias publicas crescit, quum prætereuntium vestibus semen quam maxime inhæret." *Rumphius*.

Le Poivre, in his *Travels of a Philosopher*, describes the plains of Madagascar and Java, as covered with a long grass, which he calls *Futok*, and which, from the analogy of the countries in other respects, I should suppose to be the *lallang*; but he praises it as affording excellent pasturage; whereas on Sumatra it is reckoned the worst, and except when very young, it is not edible by the largest cattle; for which reason the carters and drovers constantly set fire to that which grows on the plains by the road side, that the young shoots which afterwards spring up, may supply food to their beasts.

but

but the contrary. In few parts of the island do they ever sow grain on land that has been long cleared, and there, more from necessity than choice. I have heard a prince of the country complain of a settlement made by some strangers in the inland part of his dominions, whom he should be under an obligation to expel from thence, to prevent the waste of his old woods. This seemed a superfluous act of precaution in an island which strikes the eye as one general, impervious, and inexhaustible forest\*.

On the approach of the dry monsoon, or about the month of April, the husbandman makes choice of a spot, for his laddang of that season, and collecting his family and dependants, proceeds to fell the timber, in order to clear the ground. This is an undertaking of immense labor, and would seem to require herculean force; but it is effected by perseverance. Their tools, the *prang* and *billiong*, (the former resembling a bill-hook, and the latter an imperfect adze) are seemingly inadequate to the task, and the saw is unknown in the country. Being regardless of the timber, they do not fell the tree near the ground, where the stem is thick, but erect a stage, and begin to hew, or chop rather, at the height of ten or twelve feet, where the dimensions are smaller, till it is sufficiently weakened to admit of their pulling it down with rattans, in place of ropes, made fast to the branches†. And thus by slow degrees the whole is laid low. I could never behold this devastation without a strong sentiment of regret. Perhaps the prejudices of a classical education taught me to respect those aged trees, as the habitation or material frame of an order of sylvan deities, who were now deprived of existence, by the sacrilegious hand of a rude, undistinguishing savage. But without having recourse to superstition, it is not difficult to account for such feelings, on the sight of a venerable wood, old as the

\* The quickness of vegetation precludes all possibility of clearing a country so thinly inhabited. Ground, where paddee has been planted, will, in a single month after the harvest, afford full shelter for a tiger.

† The *Maison rustique de Cayenne*, describes a similar mode of felling trees.



foil it stood on, and beautiful beyond what pencil can describe, annihilated, for the temporary use of the space it occupied. It appears a violation of nature, in the too arbitrary exercise of power. The timber thus felled is of no value, from its abundance, the smallness of consumption, and its distance, in common, from the banks of rivers, by the means of which alone it can be transported to any distance. Trees, whose amazing bulk, height, and straightness would excite the admiration of a traveller, compared to which the masts of men of war are diminutive, fall in the general ruin. The branches are lopped off, and when the continuance of the dry weather has rendered them sufficiently arid, they are set fire to, and the country is, for the space of a month, in a general blaze, till the whole is consumed. The expiring wood, beneficent to its ungrateful destroyer, fertilizes for his use, by its ashes and their salts, the earth from which it sprung, and which it so long adorned.

Unseasonable wet weather at this period, which sometimes happens, is productive of much inconvenience, by loss of present time, and throwing the crop back. There are impostors that make a profit of the credulity of the husbandmen, who, like all others whose employments expose them to risks, are prone to superstition, by pretending to a power of causing, or retarding rain. One of these will receive, at the time of burning the laddangs, a dollar or more from each family in the neighbourhood, that he may procure favorable weather for their business. To accomplish this purpose, he abstains, or pretends to abstain, for many days and nights, from food and sleep, and performs various trifling ceremonies, continuing all the time in the open air. If he espies a cloud gathering, he immediately begins to smoke tobacco with great vehemence, walking about quick, and throwing the puffs towards it with all the force of his lungs. How far he is successful, it is no difficult matter to judge. His skill, in fact, lies in chusing his time, when there is the greatest prospect of a continuance of fair weather in the ordinary course of nature: but should he fail, there is an effectual salvo. He always promises to fulfil his agreement, with a *Deo volente* clause, and



and so attributes his occasional disappointments to the particular interposition of the deity. The cunning men, who, in this and many other instances of conjuration, impose on the simple country people, are always Malay adventurers.

When the periodical rains begin to fall, which happen, gradually about September or October, they proceed to sow the grain. Ploughs are rarely used, and only in the open plains, when cultivated, in countries where the old woods are comparatively scarce. In the grounds I am describing, the stumps of the trees would utterly preclude the possibility of working them. The husbandman enters the plantation, as it is usual to call the paddee field, with a sharp stake, and with these makes holes on either side of him, at regular intervals, and proceeds. Another person follows him, with a small basket, and drops a few grains into each hole; leaving it to the action of the rain, to cover it. The birds, as may be seen in the adjacent fields, destructive foes, and in a plantation far removed from the eye, have been known to devour the whole. The above method of sowing the laddang requires, till the harvest time, which is estimated to be about ten and ten days from the period of sowing.

Low ground  
rice,

The preparation of the *Sawoor*, or low ground plantations, is as follows. After clearing away the brush wood, and aquatic shrubs, with which the swamps and marshes, when neglected, are overrun, a number of buffalos, whose greatest enjoyment consists in wading and rolling in mud, are turned in. These work it up by their motions, and enrich it with their dung. The next care is to level it well, that the water, when introduced, may lie equally on all the parts. For this purpose, in some districts of the country, they contrive to drag about on the surface, a flat board with earth on it, to depress the rising spots, and fill up the hollow ones. The whole is then divided by parallel dams, by means of which the water is retained, or let off at pleasure. These divisions or plats, are called *peering*, which signifies a dish.

While

Whilst this work is going on, a spot is prepared in a convenient part of the ground, where the seed paddee is sown, in small patches, very thick, for transplanting, and in this state it is called *bunny*. When it is about two or three inches high, the tops are cropped in order to multiply the shoots. At the end of forty days from first sowing, the transplantation takes place: holes are made in the sawoor, as described in the laddang, and a few plants put in each; a reserve being made in the patches to supply the place of such as shall have failed upon removal. The innumerable springs and runs of water with which this island abounds, render unnecessary the laborious processes by which water is raised and supplied to the plantations in the West of India, where the country is level, and the soil sandy: yet still the principal art of the planter consists, and is required, in the management of this article; to furnish it to the ground in proper and moderate quantities, and to carry it off from time to time, by drains; for it must on no account be long stagnant, as a neglect of that kind would occasion the grain to rot. When the paddee begins to form the ear, or to blossom, as the natives express it, the water is all finally drawn off. They now begin to prepare their machines for frightening away the birds, in which they employ incredible pains, and wonderful ingenuity. The strings and clappers are so disposed, that a child shall be able, with the simple motion of its arm, to create a loud, clattering noise, through every part of an extensive plantation; and on the borders are placed, at distances, a species of windmill fixed on poles, which, to an unexperienced traveller, have as tremendous an effect as those which terrified the Knight of la Mancha.

In four months from the time of transplanting, they begin to reap the grain. The mode of doing this is the same with both species of paddee. The ears are cut off pretty short, one by one, with a rude instrument, resembling the stump of a knife, in a bamboo haft\*. This is performed with one hand, as if the ears were plucked, and each, as taken off, is put into the other hand, till that is full; when they are

Reaping.

\* The inhabitants of Menanggabow reap with an instrument resembling a sickle.

tied up in a little sheaf, and thrown into a basket, which they carry for the purpose, either by their side, or slung on their back, with the string or strap across the forehead. The quantity of paddee which they can grasp in both hands, whilst thus in the ear, is said to be equal to a bamboo (gallon) when threshed out, and is often sold by that estimation.

#### Threshing.

Different nations have adopted various methods of separating the grain from the ear. The most ancient we read of, was that of driving cattle over the sheaves, in order to trample it out. Large planks; blocks of marble; heavy carriages; have been employed in later times for this end. In most parts of Europe the flail is now in use. They have a mode different from all these. The paddee is spread on mats in their barns, they rub it out with their hands, for the more easy performance of this labour. In rubbing with their hands a bamboo placed across, over their shoulders, though, by going always unshod, their feet are extremely sore, therefore in some degree adapted to this work, yet the work is closely tasked by their masters, sometimes continue the work till blood issues from their soles. This is the universal practice of the island.

A laddang, in any of the districts that lie near the sea, may be used two following seasons, though a sawoor may; yet in the country, where the temperature of the air is more favorable, they have been known to sow the same ground, three times in five years. It is common there also to plant a crop of onions, as soon as the stubble is burned off. Millet is sown at the same time with the paddee.

In the country of Manna, a progress in the art of cultivation is discovered, superior to what appears in almost any other part of the island; among the Battas perhaps alone excepted. Here the traveller may observe pieces of land, in size from five to fifteen acres, regularly ploughed and harrowed. I shall endeavor to account for this difference. Manna is by much the most populous district to the southward, with the smallest extent

## S U M A T R A.

extent of sea coast. The pepper plantations and laddangs together, have in great measure exhausted the old woods, in the accessible parts of the country, and the inhabitants are therein deprived of a source of fertility which nature formerly supplied. They must either starve, remove their plantations, or cultivate the earth. The first is contrary to the inherent principle which teaches man to preserve life by every possible means: Their attachment to their *natale solum*, or rather their veneration for the sepulchres of their ancestors, is so strong, that to remove, would cost them a struggle equal almost to the pangs of death: Necessity therefore, the parent of invention, obliges them to cultivate the earth. The produce of pepper, when dried, is reckoned at thirty for one: from the laddang it is about sixty to eighty. The sawoors are generally reckoned to yield an increase of an hundred for one, and in some of the islands (at *Soefoo*) an hundred and twenty. These returns are compared with the produce of our fields in Europe, which seldom exceeds fifteen, and is often under ten. What is the reason of this? Perhaps to the difference of grain, as the sawoor is nature extremely prolific: perhaps to the more general use of a warmer climate: perhaps the earth, by an excessive use of manure, increases by degrees her fecundity. An attention to the observations of travellers, would seem to give countenance to this. The *Peru*, which may be called new land, is said to yield four hundred for one. Babylon, anciently, two to three hundred, and *Egypt* an hundred. Yet of the two latter, naturalists inform us, the one produces, at this day, but one, and the other from four to ten, for one. The Peruvian accounts, in respect of exaggeration, or that it is the result of some partial experiment, as it is well known what a surprising increase may be procured from a small quantity of grain, sown separately, and not weeded. The other accounts are probably just, but the difference between these countries, as well as the difference between the European and eastern produce, I attribute, more than to any other cause, to the different style of cultivation. With us the saving of labor and promoting of expedition, are the chief objects, and in order to effect these,

Rate of Pro-  
duce.



these, the grain is almost universally scattered in the furrows, except where the drill has been introduced. The Sumatrans, who do not calculate their own or their domestics' labor on these occasions, make holes in the ground, as I have described, and drop into each a few grains; or by a process still more tedious, raise the seed in beds, and afterwards plant it out. Mr. Charles Miller, in a paper published in the *Phil. Trans.*, has shewn us the wonderful effects of transplantation. How far it might be worth the English farmer's while, to bestow more labor in the business of sowing his grain, in hopes of an increase of produce, I am not competent, nor is it to my present purpose, to form a judgment: Possibly, as the advantage might be found to lie rather in the quantity of grain saved in the sowing, than gained in the reaping, it would not answer the purpose; for although half the quantity of seed, bears reciprocally the same proportion to the usual produce, that double the latter does to the usual allowance of seed, yet in point of profit it is quite another matter. In order to increase this, it is of much more importance to augment the produce from a given quantity of land, than to diminish the grain necessary to sow it.

#### Fertility of soil

Notwithstanding the received opinion of the fertility of the Malay islands, countenanced by the authority of Le Poivre, and other celebrated writers, and still more by the extraordinary produce of grain, as above mentioned, I cannot help saying, that I think the soil of Sumatra general rather steril, than rich. It is almost every where a fine clay, burned nearly to the state of a brick, where it is exposed to the influence of the sun. The small proportion of the whole which is cultivated, is either ground from which old woods have been recently cleared, whose leaves had formed a bed of vegetable earth, some inches deep; or else swamps, into which the scanty mould of the neighbouring hills has been washed by the annual torrents of rain, in consequence of their low situation. It is true that on many parts of the coast, there are, between the cliffs and the beach, small plains of a sandy soil, probably left by the sea, and more or less mixed with earth, in proportion to the time they have remained uncovered by the waters; and such are found to prove the most favorable spots for raising the productions of



of the western world. But these are partial and unsatisfactory proofs of fertility. The great increase from the seed is, as I have suggested, more probably owing to the mode of sowing, than to superior richness of the land, and would not appear if the European method of scattering it were followed. Although in Manna they have got into the practice of tilling the ground, and derive from thence a produce of thirty for one, in open plains, it must be observed, that this is still new land, though not just then cleared for the purpose, and the same spot is doubtless not worked a second time till it has lain fallow. Every person who has attempted to make, on Sumatra, a garden of any kind, must well know how ineffectual a labor it would prove to attempt turning up with the hoe a piece of ground adopted at random. It becomes necessary for him to form an artificial soil of dung, ashes, rubbish, and other materials as can be procured. From such alone he can obtain the smallest supply of vegetables for the table. I have seen plantations of coco-nut, penang, and coffee-trees, laid out by different gentlemen, and not one do I recollect to have prospered; owing to the barrenness of the country. The Europeans have induced the Europeans almost entirely to

The more industrious Chinese colonists, who work the soil with indefatigable pains, and dung high, are rather more successful. Yet have I heard one of the most able cultivators among this class, who, by the dint of labor and perseverance, had raised a beautiful garden near Fort Marlborough, designed for profit as well as pleasure, declare, that his heart was almost broken in struggling against nature; the soil being so ungrateful, that instead of obtaining a return for his trouble and expence, the undertaking was likely to render him a bankrupt; and which he would inevitably have been, but for assistance afforded him by the India Company. The natives, it is true, without much or any cultivation, raise some useful trees and plants; but they

\* Key Soon: his taste in gardening was exquisite, and his assiduity unremitting. Some particular plants, especially the *tea*, he used to tell me he considered as his children: his first care in the morning, and last at night was to tend and cherish them. I have heard, with concern, of his death, since the first publication of this work. I could wish the old man had lived to know that this small tribute of attention had been paid to his merits.

are

are in very small quantities, and immediately about their villages, where the earth is fertilized in spite of their indolence, by the common sweepings of their houses and streets, and the mere vicinity of their buildings. I have often had occasion to observe, in young plantations, that those few trees which surrounded the house of the owner, or the hut of the keeper, considerably over-topped their brethren of the same age. Every person at first sight, and on a superficial view of the Malay countries, pronounces them the favorites of nature, where she has lavished all her bounties with a profusion unknown in other regions, and laments the infatuation of the people, who neglect to cultivate the finest soil in the world. But I have scarcely known one, who, after a few years residence, has not entirely altered his opinion. Certain it is, that in point of external appearance, the Malay islands, and Sumatra among the rest, may challenge the world to a comparison. There indeed nature has been extravagant, bestowing on many parts of the country, where human foot scarce ever trod, all that is adapted to raise the sentiment of sublimity in minds susceptible of the impression. But how rarely are those minds to be found! and yet it is alone

“ For such the rivers dash their foaming tides,  
The mountain swells, the vale subsides,  
The stately wood detains the wand’ring fight,  
And the rough, barren rock grows pregnant with delight.”

Even where there *are* inhabitants, to how little purpose has she been thus profuse in ornament! In passing through some places, where my fancy has been charmed with more beautiful and truly picturesque scenes, than I remember ever to have met with before, I could not avoid regretting that a country so captivating to the eye, should be allotted to a race of people who seem totally insensible of its beauties.

After treading out the grain, which is equivalent to threshing, the next step is to winnow it, which is done precisely in the same manner as practised by us. Advantage being taken of a windy day, it is poured out from the sieve or fan; the chaff dispersing, whilst the heavier grain falls to the ground. This mode seems to have been universal in all ages.

ages and countries. The next process is that of clearing the grain from the husk, by which, from paddee, it becomes rice. This is done in the *Lessoong*, or large wooden mortar, where it is pounded, by one or more persons, with heavy pestles, of wood also, called *Alloo*, till the outer coat is separated; after which it is again fanned. This business is likewise, in some places, performed with a machine, which is no more than a hollow cylinder of heavy wood, turned back and forwards, horizontally, by two handles, on a solid cylinder of the same diameter, and at the same time pressed down to increase the friction. The grain is put into the hollow cylinder, which answers the purpose of a hopper, at the same time that it performs the business of the upper millstone in our mills. A spindle runs up from the center of the lower piece of wood, which serves as an axis for the upper to turn on.

Mode of clearing grain from the husks.

The rice is now in a state for sale, exportation, or laying up. It will not keep above twelve months, particularly the sawoor rice, which begins to shew signs of decay after six. At Natal they have a practice of putting a quantity of the leaves of a shrub called *Lagoondoe*, amongst their rice, in granaries or boats holds, which possesses the property of destroying the weevils that usually breed in it. In Bengal, I am told, they kiln-dry the rice intended for exportation, owing to which, or some other process, it will continue good for several years, and is on that account made use of for garrisons in the Malay countries. In the state of paddee it will keep long without damaging, which induces the country people to lay it up in the sheaf; clearing it of the husk, or beating it out, as it is termed, from time to time, as wanted for use. By this operation it loses one half of its quantity in measurement, two bamboos of paddee yielding but one of rice. To render it perfectly clean for eating, a circumstance they are particularly attentive to, it is put a second time into a lessong of smaller size, and being sufficiently pounded, without breaking the grains, it is again winnowed, by tossing it in a flat sieve, till the pure and spotless grain is dexterously separated from the bran. They next wash it in cold water, and then proceed to boil it in the manner before described.

Rice as an article of commerce.

The

The price of this necessary of life differs throughout the island, according to the general demand at the place where it is purchased, and the circumstances of the season. At a northern port called Soofoo, it is seldom under thirty bamboos (galleons) the Spanish dollar. In the southern districts, where the cultivation is more confined, and the soil less productive, it varies from twelve to four bamboos, according as the harvest is more or less plentiful, or the market better or worse supplied with imported rice.

Coconut.

The Coco-nut tree may be esteemed the next important of cultivation, from the uses to which its produce is applied in the islands of India; though on Sumatra it is not converted to the same purposes, as in those islands where nature has been so bountiful in her gifts. Its value here consists principally in the oil, of which the consumption is prodigious, being used in all their dishes. The stem is but in little use, where the finest timber so much abounds. The leaves are made into ropes, called *cayar*, as on the other side of India, and are used for that purpose. The shell is but little employed as a utensil, the lower class of the people preferring the bamboo, and the better sort being possessed of coarse earthenware filaments which surround the stem are probably manufactured in those countries alone, where cotton is not produced, which is infinitely preferable: besides, that certain kinds of trees, as is observed, afford, in their soft and pliable bark, a species of cloth woven to their hands. Of the coco-nut, however, they make oil for hair, and for burning in lamps; though, in the interior country, the lig most commonly used, is from the *dammar* or turpentine, of which links are formed. Toddy, a liquor esteemed for various purposes, and particularly in the manufacture of arrack, is drawn from this, as well as other species of the palm; from the head they procure a kind of cabbage; and of the fibres of the leaves they compose their brooms. Every doosoon or village is surrounded with a number of coco-nut trees, where the soil and air will suffer them to grow; and near the bazars, or sea-port



towns, where the concourse of inhabitants is much greater, there are always large plantations of them to supply the extraordinary demand.

This tree, in all its species, stages, and parts, has been so elaborately, minutely, and justly described by many writers, especially the celebrated Rumphius in his *Hortus Amboinienfis*, that it would be mere repetition in me to attempt a scientific account of it. I shall therefore only add a few detached observations on its growth. It thrives best in a low sandy soil, near the sea, where it will produce fruit in four or five years. In other ground it seldom bears in less than seven to ten years. As you recede from the coast the growth is proportionably slower, owing to the greater degree of cold in the hills, which is its severest enemy; and it may attain there nearly its full height before it is productive, whereas in the plains, a boy can generally reach its first fruit from the ground. As a countryman, at Laye, if I plant a coconut or doorean tree, I expect to reap the fruit of it, but in Laboon (an inland district) I can only plant for my great-grand-children. This very tedious growth may seem exaggerated, but it was repeatedly asserted to be, *duo, tri, quatuor, gaylair orang* (two or three generations) before the coconut trees arrived at complete maturity; and in some parts of the island, where the soil is particularly high, I have been assured that neither those, the doorean, or pepper vines, will produce fruit at all.

It has been remarked by some writer, that the great palm tree (*palma dactylifera*) and the coconut tree, are never found to grow in the same country. However this may hold good as a general observation, it is a fact that not one tree of that species grows on the island of Sumatra, although the coconut and many other kinds of palms flourish here.

Small islands which lie off the coast are skirted, near the sea, with coconut trees growing so thick together that they almost touch other, whilst the interior parts are entirely free from them. A doubt, is occasioned by the accidental floating of the nuts



to the shore, where they are planted by the hand of nature, shoot forth and bear fruit; which falling, as it comes to maturity, springs up in like manner, and causes a successive reproduction.\* Some of these islands, particularly *Poolo Mago*, one of the southernmost, are uninhabited, except by rats and squirrels, who feast without control upon the coconuts, unless when disturbed by the crews of vessels from Sumatra, which go thither occasionally to collect loadings for market. The sea-coconuts, which are known to be the production of islands that lie north-east of Madagascar, are sometimes floated as far as the Malay coasts, where they are supposed to be natives of the ocean, and were held in high veneration for their miraculous effects in medicine, till a large cargo of them was a few years since brought to Bencoolen by a French ship, when their character fell with their price.

Betel-nut, and  
other vegeta-  
bles of domest-  
ic use.

Of the *Penang* or betel-nut tree, which in growth and appearance is not unlike the coconut, the natives make large plantations, as well as of the *Serece*, a creeping plant, whose leaf, of a strong aromatic flavor, they eat with the betel-nut and other additions; a practice which I shall hereafter describe. *Chili* or cayenne pepper, which is much used in their curries and with every article of their food, always constitutes a part of their irregular and inartificial gardens. Turmeric (*curcuma*), a yellow root well known in our shops, is likewise universally cultivated. It is of two kinds, the one called *cooniet mera*, for domestic use, being also an ingredient in their curries, pilaws, and sundry dishes: the other, *cooniet sunmoo*, is an excellent yellow dye, and is sometimes employed in medicine. The coriander and cardamum plants grow in the country in great abundance. The latter is called by the natives *poaab lako*. There are many species of the *poaab*, the most common of which has extraordinary large leaves, like the plantain, and possesses an aromatic quality, not as

\* A few coconuts have been driven by the sea to some parts of the coast of Madagascar, where they are not indigenous, as I was assured by a native, who told me their language had no name for them. Rumphius says they are called *Poaniou* (*looa nior*) a corruption of the Sumatran name. They seem to have been little if at all known to the ancients, though said by Theophrastus to have been produced in Egypt.

like that of the bay. Ginger is planted in small quantities. It is called *sepudday*; which name occasions me to remark, that in the Malay language, they use the word "*pudday*" to express that pungent, acrid quality in pepper and other spices, which we vaguely denote by the word "*hot*", which has another signification totally different. A dish high seasoned, may, according to our mode of expression, be at the same time hot and cold. *Costus arabicus* and *amomum zerumbet* are cultivated for medicinal purposes, as is also the *galangale*. Small plantations of tobacco, of the same species with the Virginian, are to be met with every where in the country, but the people are not expert in the method of curing it, else there is no doubt but it might be brought to great perfection, and by increasing the quantity, rendered a considerable object of trade. It is cut, whilst green, into fine shreds, and afterwards dried in the sun. *Benjan* (*sesamum*) is sown largely, especially in the Passumamah country, for the oil it produces, which is used in burning only. The *jerak* (*palma Christi*) from whence the castor oil, so much prized, is extracted, grows wild in abundance. The natives are fond of the sugar cane, which they cut into joints, and chew as a delicacy, but they rarely express, or manufacture its juice. Their sugar or *jaggree*<sup>u</sup> is made from a liquor yielded by the *Anvu*, a species of palm. They plant the *kratou*, mulberry, but of a dwarf kind, for the use of the silk worms which they rear, but not to any great extent, and the raw silk produced from them seems of an indifferent quality. The silk is in general white instead of yellow, and the filaments appear coarse, but this may be partly occasioned by the method of loosening them from the bags, which is by steeping them in hot water. The samples I have seen were in large flat cakes which would require much trouble to wind off. *Calasee* is a species of nettle, of which excellent twine, not inferior to ours, is made. It grows to the height of about four feet, without branches, the stem being imperfectly ligneous. It is cut down, dried, and

<sup>u</sup> If the ancients were acquainted with sugar, it was produced from some species of the palm, as the sugar canes were not brought into the Mediterranean from the east, till a short time before the discovery of the passage to India by the Cape. The word *saccharum* is conjectured to be derived from *jaggree*, which the French pronounce *sébagaree*.

beaten; after which its rind is stripped off, and twisted as we do the hemp. Twine is also made of the bark of a shrub called *Endek*. The *ganjo* or hemp, called *ganjo* by the Malays, is cultivated in quantity, not for the purpose of making rope, which they never think of applying it to, but for smoking, and in that state it is called *bang*, and has an intoxicating quality. *Palafs* is a shrub, with a blossom much resembling our hawthorn in appearance and smell. Its leaf has an extraordinary roughness, on which account it is employed to give the last fine polish to their carvings in wood and ivory, particularly the heads and blades of their *creeses* or daggers, in which they are remarkably skilful. The leaf of the *Scepet* also, having the same quality, is put to the same use. A twine is made in the Lampoon country of the bark of the *Agass* tree, beaten out like hemp, for the construction of large fishing nets. The younger leaves of this tree are esteemed delicate in eating. On the island of Neas they make a twine of the *Baroo* tree, which they afterwards weave into coarse cloth for bags. A kind of thread for sewing is procured by stripping filaments from the midribs of the leaves, and the trunk of the *Pefang* or plantain, and I understand that it is usually worked in the loom. *Maroongaye*: the root of this shrub, which grows high, with pinnated leaves, has perfectly the appearance, flavor, and pungency of horseradish, and is used in the same manner. *Engay* is a shrub with a small, light green leaf, which yields an extract of a red color, with which the natives tinge the nails of their hands and feet. *Cachang goring*: these are the granulose roots of an herb, which resembles the clover, but that the leaves are double only instead of treble, and affording, like that, the richest pasture for cattle. The blossom is papilionaceous and yellow. The *cachang* (which is likewise the general name for pulse) are always eaten in this manner, whence the epithet of *goring*, and prove an agreeable aliment. The natives plant yams of different kinds, and remarkably good potatoes, of which those who are used to them become very fond. There are also of various sorts, particularly a species of French bean, which grows and lasts for several years: the *brinjals* (of which there are several species) were probably introduced from China, but are now cultivated by the natives, split and fried. Their attention to their gardens, &c.

very limited, owing to the liberality with which nature, unfettered, conforms to their wants. Maize (*jaggong*), though very generally raised here, is not cultivated in quantities, as an essential article of food. The ears are plucked whilst green, and being slightly roasted, are eaten as a delicacy. *Paccow beendoo* resembles a young dwarf coconut tree, and is probably of that species. The stem is short and prickly, and the lower parts of each branch prickly. The young shoots are much esteemed in curries. It produces a cabbage like that of the *neebong*, and *neebong*, which is a fine culinary vegetable. Its flower is yellow. Though ranked by the Malays, and by Rumphius, in the class of ferns, it has no obvious affinity to them. The *neebong* or cabbage tree, a species of palm, grows wild in too great abundance to require being cultivated. The pith of the head of the tree is the part eaten. The stem, which is tall and straight, like the coconut, is much used for parts of flight houses, being of a remarkably hard texture on the outside part. Within side it is quite soft, and therefore, being softened out, it is often used as gutters or channels to convey water. *Neeroo* is a tree of the palm kind also, and of much importance, as the natives procure from it sago (but there is also another sago tree in the country); toddy or palm wine, of the first quality; sugar or *agayee* or *ejoo*. The leaves are long and narrow, and though naturally tapering to a point, are never found perfect, but always jagged at the ends. The fruit grows in bunches of thirty and forty together, on strings three or four feet long. One of these strings being cut off, the shoot remaining is tied up, and then beaten; afterwards an *ejoo* is made, and a vessel closely fastened, usually of bamboo, in which the toddy (*neeroo*) distils. The *ejoo*, exactly resembling horse hair, and used like it, among other purposes, for making brushes, and mixing with mortar, for compassing the stem, and is also used round on by thicker fibres or twigs, of which the Malays make pens for writing.

*Indigo* (*roem*) being the principal dye-stuff employed by the natives, is always found among their plantations, but they do not manufacture

Dye-stuffs.

nufacture it into a solid substance, as is done elsewhere in the East and West Indies. They leave the stalks and branches for some days in water to soak and macerate, then boil it, and work with their hands some *chunam* (quick lime) among it, with leaves of the *pacoo sabba* (a species of fern) for fixing the color. They then drain it off, and use it in the liquid state. There is another kind of indigo (*taroom akkar*) which appears to be peculiar to this country, as I shewed some of the leaves to botanists of the most extensive knowledge, who informed me that they were totally unacquainted with it. The common kind is known to have small, pinnated leaves, growing on stalks imperfectly ligneous, about five feet high. The *taroom akkar*, on the contrary, is a vine or creeping plant, with leaves four or five inches long, in shape like a laurel, but finer, and of a dark green. It possesses the same qualities, and produces the same color with the other sort: they are prepared in the same manner, and used indiscriminately, no preference being given by the natives to one above the other, except that the *akkar*, by reason of the largeness of the foliage, yields a greater proportion of sediment. I conceive that it must be a valuable plant, and have written to my friends on Sumatra to transmit me specimens of the flowers and seed, that its identity and class may be accurately ascertained.

*Sappang* (sapan or Brasil wood). The heart of this being cut into chips, steeped for a considerable time in water, and then boiled, is used for dying here, as in other countries. The cloth or thread is repeatedly dipped in this water, and hung to dry between each wetting, till it is brought to the shade required. To fix the color, *taway* (alum) is added in boiling.

*Macoedoo* (*morinda citrifolia*). A tree, the outward parts of the root of which, being dried, powdered, and boiled in water, afford a red dye for fixing which, the ashes yielded by the stalks of the fruit and midribs of the leaves of the coconut, are employed. Sometimes the bark of the *besappang* tree is mixed with the roots of the *macoedoo*.



*Chepudda* (jack tree). The roots are cut into chips, and when boiled in water produce a yellow dye. A little of the *cooniet* (turmeric) is mixed with it, to strengthen the tint, and alum, to fix it.

*Cadarang* is used as the jack tree. These yellow dyes do not hold well, and it is therefore necessary, that the operation of steeping and drying should be frequently repeated.

A black dye is made from the coat of the *mangusteen* fruit, and bark of the *katapping* or almond. With this, the blue cloth from the west of India, is rendered black, as usually worn by the Malays of Menangkabow. It is steeped in mud to fix the color. A shrub called *kattam* by the Moossee people, and by the Malays, *timboo akkar*, yields also when boiled, a black dye, which, it is thought, if it could be manufactured like indigo, might turn to valuable account, as a vegetable black dye is said to be much wanted.

*Oohar* is a red wood which is used for tanning fishing nets. It much resembles the logwood of Honduras, and might probably be employed for the same purposes.

*Cassoomboo*. This is the *bixa*, from which, in the West Indies, the *arnotto*, a valuable dye, is procured. I brought home with me, and shewed to the late Dr. Solander, some of the seed vessels and leaves, who assured me it was the true arnotto : yet the natives of Sumatra say that it is only an inferior kind, and that the best sort comes from Java. They call theirs cassoomboo *ayer*, which addition signifies water, and is used in other instances to express a bastard species ; or perhaps it may only denote its growing in marshy places. Of the Javan, or genuine sort, as they call it, the *flowers* are said to be used, and the color it gives is a shade of pink. In the Sumatran species, the *seeds* afford the dye, which is a yellowish scarlet. The former is, according to Rumphius, the *flowers* of the *cartbamus indicus*, and in a Batavian catalogue\*, I observe

\* Transactions of the Batavian Society for arts and sciences, vol. 1.—Although the *Bixa* and *Cartbamus* are so nearly confounded in the Malay names, yet I am assured that the latter, which I have not seen, bears no manner of resemblance to the former.

that a distinction is made between "caffoomboo," which the Malays call "thamus," and caffoomboo *cling*" (Teling or Coromandel) which they term "bixa". The leaf of the tree is four inches in length, broad at the base, and tending to a sharp point. The capsule, about an inch in length, is covered with soft prickles or hair, opens like a little shell, and contains in its cavities a dozen or more seeds, about the size of raisin stones, surrounded thick with a reddish farina, which forms the only part that constitutes the dye.

The Sumatrans are acquainted with no purple dye, nor apparently are any of the Indian nations.

*Fruits, Flowers, Medicinal Shrubs and Herbs.*

E, says a celebrated writer, seems to have taken a pleasure in the Malay islands, her most favorite productions"—I think it may be affirmed, that no country upon earth equal abundance and variety of *indigenous fruits*; for the following list cannot be reckoned as such, yet reason to conclude that by far the greater part may, as hardly be suspected of having taken much pains to who never appear to bestow the smallest labor in improving or cultivating, those which they naturally possess. The grow wild, and the rest are planted in a careless, irregular any inclosure, about the skirts of their villages.

*Bacca* (*mangees*) has, by general consent, obtained the amongst Indian fruits, in the opinion of Europeans. of the Malay islands, and perhaps the most delicate fruit but not rich or luscious. It is a drupe, consisting of a what hard on the outside, but soft and succulent within, which are covered with a juicy, and perfectly white is the part eaten, or sucked rather, as it dissolves in the are extremely innocent in their qualities, and may be quantity without danger of a surfeit, or other bad effects. This season are very irregular.

This is the favorite of the natives, who live almost during the time it continues in season. It is a rich fruit, taste, offensive in the smell to those who are not accustomed of a very heating quality. The tree is large and lofty; small in proportion, but in themselves long and pointed. grow in clusters on the stem and larger branches. The of a yellowish white, surrounding five bunches of stamens containing about twelve, and each stamen having four

M

antheræ

antheræ. The pointal is knobbed at top. When the stamina and petals fall, the empalement resembles a fungus, and is nearly the shape of a Scots bonnet. The fruit is not unlike the bread fruit, but larger and rougher on the outside.

The jack (*choopada*). This is distinguished into the choopada *ootan*, and *nanko*. The former is scarce and esteemed preferable. The leaves are smooth, pointed, rare. The nanko, or common sort, has roundish leaves, resembling those of the cashew tree. In both sorts, the fruit grows from the stem, and is very large, weighing sometimes half an hundred weight. The outer coat is rough, containing a number of seeds or kernels, (which when roasted eat like chefnuts) inclosed in a fleshy substance, of a rich, and to strangers, too strong smell and flavor, but which gains upon the taste. As the fruit ripens, the natives cover it with mats or the like, to preserve it from injury by the birds. Of the juice of this tree they make bird-lime, and the root yields a dye stuff.

*Sookoon. Calawee.* Two species of the bread fruit tree. The former has no kernels, and is the genuine sort. It is propagated by cuttings of the roots. Though pretty common, it is said not to be a native of the island, as the calawee certainly is, the bark of which affords the inhabitants their cloth. They cut the bread fruit in slices, and eat it boiled or fried, with sugar, esteeming it much. I have frequently tasted of it. The leaves of both sorts are deeply indented, like those of the fig, but considerably longer.

*Billimbing.* Of this there are two sorts, called *jooroo* and *bessee*. The leaves of the latter are small and pinnated, of a sap green: those of the former grow promiscuously, and are of a silver green. The fruit of both is pentagonal, containing five flattish seeds, and extremely acid. The blossom resembles the flower we call London pride. *Cheremin.* This resembles the billimbing bessee, in having the leaves pointed and pinnated alternate. The fruit is acid, and of a small roundish, irregular

lar shape, growing in clusters close to the branch, and containing each a single seed.

*Lanfai.* The tree which bears this fruit is large; the leaves are of a lightish green and somewhat pointed. The fruit is small, oval, of a light brown; divides into five cloves, fleshy, and of an agreeable taste; but the skin contains a clammy juice, extremely bitter, and which is apt to taint the fruit, if not opened with care. *Ayer ayer.* This is not unlike the lanfai. The *Choopa* is also nearly allied to it.

*Brangan.* This fruit, the produce of a large tree, strongly resembles the Chestnut, and is I think a species of it. They grow sometimes one, two, and three in a husk. *Jerring.* This also seems a species of the chestnut, but it is larger and more irregularly shaped. The tree is smaller than the former. *Tappos.* This has likewise a distant resemblance to the chestnut; has three nuts always in one husk, forming in shape an oblong spheroid. If eaten unboiled, it is said to inebriate. The tree is large.

*Cameeling* or *'booa cray.* This much resembles a walnut, in the flavor and consistence of the fruit; but the shell is harder, and it is not divided into lobes in the same manner, nor does the shell open, being all of one piece. The natives of the hills make use of it for their curries, in parts where the coconut-tree will not produce fruit.

*Katapping.* This fruit, the produce of a large tree, is extremely like the almond, both in the outer husk and the kernel within, excepting that the latter, instead of splitting into two, as an almond readily does, seems folded up, and opens somewhat like a rose bud, but continuous, and not in distinct pieces.

*Sala.* The pulp of this fruit is sweetish, acidulous, and of a pleasant flavor. The outer coat, in shape like a fig, is covered with scales, or the appearance of basket-work. When ripe, it is of a dark brown. It



encloses sometimes one, two, and three kernels, of a peculiar horny substance. The tree is low and thorny.

*Jamboo mera* or *jamboo cling*. This fruit is in shape like a pear or cone. The outer skin, which is very fine, is of a beautiful red, and the inside perfectly white. When ripe it is delicious eating, and has more substance than the generality of Indian fruits. In smell it resembles the rose, and the taste partakes slightly of that flavor. There is one species of it, which is called the rose-water jamboo. Nothing can be more beautiful than the blossoms, the numerous stamina of which are of a bright pink color. The tree, which grows in a handsome, regular, conical shape, has large, deep green, and pointed leaves. *Jamboo ayer*, is a delicate and beautiful fruit in appearance, being a mixture of white and pink. It is smaller than the *jamboo mera*, and not equal in its flavor, which is a faint, agreeable acid. The leaf is a deep green, pointed, and unequal.

*Rambootan*. The flavor of this fruit is a rich and pleasant acid. It is red, and covered with soft spines or hair, from whence its name. In appearance it is not unlike the arbutus, but larger, brighter red, and more hirsuted.

Besides those which I have attempted to give some description of, the following fine fruits are in great abundance, and to persons who have been in any part of India, in general well known. The *Mango*, by many esteemed an unrivalled fruit, is richer, but of a less delicate and elegant flavor than the mangusteen. The Plantain, *pesang*, or Indian fig, of which there are counted upwards of twelve varieties, including the banana. The Pine-apple (*nana*). These grow in great plenty without the smallest degree of culture, further than sticking the plants in the ground. Some think them inferior to those produced in Europe, but probably because their price is no more than two or three pence. With the same attention, they would doubtless be much superior, and their variety is very great. Oranges (*lemon*) every species are in extreme perfection. The Pumplenose, or Shaddock (so called in the West Indies from

from the name of the captain who carried them thither) is here very fine, and distinguished into the white and red sorts. Limes and lemons are abundant. The Guava or *jambou protoocal*, as the Malays call it, is well known in the west of India, for a flavor which some admire, and others equally dislike. The inside pulp of the red sort is sometimes mixed with cream by the Europeans, to imitate strawberries, as we are naturally partial to what resembles the produce of our own country. Many I have known, amidst a profusion of the richest eastern fruits, to sigh for an English codling or gooseberry. Custard-apple, (*seerec cayoo*), derives its name from the likeness which its white and rich pulp bears to a custard, and it is accordingly eaten with a spoon. The Pomegranate (*mullcemou*) requires no comment. The Papa (*cal-ekkee*) is a large, substantial, and wholesome fruit, but not very highly flavored. The pulp is yellow, and the seeds, which are about the size of a grain of pepper, have a hot taste like cressies. The Cashew-apple and nut (*jambou eerong*) are well known for the strong acidity of the former, and the caustic quality of the oil contained in the latter, from tasting which the inexperienced often suffer. Rock or musk melons are not common, but the water melons are in great plenty. Tamarinds (*assam*) which are the produce of a large and noble tree, with small pinnated leaves, supply a grateful relief in fevers, which too frequently require it. The natives preserve them with salt, and use them as an acid ingredient in their curries and other dishes. It may be remarked, that in general they dislike sweets, and always prefer fruits whilst green, excepting perhaps the doorean and jack, to the same in their ripe state: the pine-apple they eat with salt. Grape-vines are planted with success by the Europeans, but are not cultivated by the people of the country. There is found in the woods a species of wild grape, called *pringat*; and also a fruit that resembles the strawberry.

The following fruits, growing mostly wild in the country, are not equally known with those already enumerated, yet many of them boast an exquisite flavor. *Boca candeo*, (*boca* signifying fruit, is always prefixed to the particular name) *malacco*, *tampoore*, *rotan*, *neepah*, *roocum*, *rumpunni*,

*rumpunni, kuddoee, muncoodoo, succoodoo, keetapon, embacbang, tais, leffay, aman.* Some of them however are little superior to our common berries, but probably might be improved by culture.

Flowers.

"You breathe, in the country of the Malays, says the writer whom I before quoted, an air impregnated with the odours of innumerable flowers of the greatest fragrance, of which there is a perpetual succession the year round, the sweet flavor of which captivates the soul, and inspires the most voluptuous sensations." Although this luxurious picture may be drawn in too warm tints, yet it is not without its degree of justness. The country people are fond of flowers in the ornament of their persons, and encourage their growth, as well as that of various odoriferous shrubs and trees.

The *canango*, being a tree of the largest size, and surpassed by few in the forest, may well take the lead, on that account, in a description of those which bear flowers. These are of a greenish yellow, scarcely distinguishable from the leaves, and seem to open only at sun-set, when they diffuse a fragrance around, that of a calm evening affects the senses at the distance of many hundred yards.

*Choompaco (michelia).* This tree grows in a regular, conical shape. The flowers are a kind of small tulip, but close and pointed at top: the color a deep yellow: the scent strong, and at a distance very agreeable. They are wrapped in the folds of the hair, both by women and young men who aim at gallantry.

*Sangelappo.* Pretty shrub. The leaves very deep green, with a long point. The flowers white, of the pink kind, but without visible stamina or pistil, the petals standing angularly like the sails of a windmill. *Pichar peering.* This is a grand white flower, and bears the same relation to the foregoing that the carnation does to the common pink. The Batavian catalogue calls it *clerodendrum*.

*Boongo rio.* Tall, handsome shrub. The flower red, with juice of a deep purple; called also the shoe flower, from the purpose its juice has often been converted to by Europeans. Another sort has white flowers. The leaves of the tree are of a pale, yellowish green, serrated and curled.

*Coombanganoojoor.* This is always planted about graves. The flower is large, white, but yellow towards the center, of a strong scent, and consisting of five simple, smooth, thick petals, without visible pistil or stamina. The tree grows in a stunted, irregular manner, and even whilst young, has a venerable, antique appearance. The leaf is long, pointed, of a deep green, but most remarkable in this, that the fibres which run from the mid-rib, are bounded by another that goes in a waving line all round, within a small distance of the circumference, forming a kind of border.

*Salandap* (crinum or asphodel lily). It grows in a large umbell; each flower on a long footstalk, which divides into six large, white, turbinated petals, of an agreeable scent. The stamina are six in number, about two inches long. The leaves are of the spear kind, of a large size. This plant grows wild upon the beach, among those weeds which bind the loose sands. The Batavian catalogue calls the crinum, *bacong*. *Pandan oongey*. A beautiful species of the salandap. The generic marks are the same, but it is larger, and has a deep shade of purple mixed with the white.

Of the *pandan*, which is a shrub with very long prickly leaves, like those of the pine-apple or aloe, there are many varieties; of which one produces a whitish blossom, a foot or two in length, that has not much the appearance of a flower, but has a very strong odoriferous smell, which is perceived at a great distance. The common kind is employed for hedging. It is called elsewhere, *Caldera*.

The *Melloor* or *melattee* (*nyctanthes*) is an humble plant, bearing a pretty white flower, of the most agreeable scent, in the opinion of many,  
that



that the country produces. It is much worn by the women, along with the boongoo tanjong, and usually planted near their houses. It may be remarked that "*boongo*" or flower, is always prefixed to the names of these, as "*booa*" to the fruit. Thus the natives say, *boongo meli*, *boongo rio*.

*Tanjong*. A fair tree, rich in foliage, of a dark green: The flowers are radiated, and of a yellowish white. They are worn in wreaths by the women. The scent, though exquisite at a distance, is too powerful when brought nigh. The fruit is a drupe, enclosing a large, black flattened seed.

*Scandal malla*, or harlot of the night, from the circumstance of its blowing only at that time. This is a monopetalous, infundibuliform white flower, of the tuberosa kind. The tubes, which rise from the single stem, divide into six, deep segments, pointed, slightly reflexed, and placed alternately under and over. The stamina, which are fixed, adhere closely to the inside of the tube, their apices only being free. The style rises from the germen only half way in the tube, separating at top into three stigmata.

*Geering landa*. A papilionaceous flower resembling the lupin, or the spartium more exactly. It is yellow, and tinged at the extremes with red. The leaves are broad, pointed, and treble on each stalk. The seed rattles loudly in the pod, from whence the name; "*geering*" signifying the small bells worn by children about their legs and arms; "*landa*" is a hedgehog, to the spines of which animal they probably may sometimes adhere.

*Daoup*. A white, homely flower. The leaves of the plant are curious, together, and folding with an hinge, and contains several flat seeds.